NEW SERIES No. 21.

SELECTIONS FROM THE RECORDS

OF THE OFFICE OF THE

FINANCIAL COMMISSIONER, PUNJAB.

Published by Authority.

No. 47.

CONTENTS.

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THE "CIVIL AND MILITARY GAZETTE" PRESS.
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No. 673, dated 14th September 1899.

From—W. S. HAMILTON, Esquire, Senior Secretary to Financial Commissioner, Punjab,

To—A. H. DIACK, Esquire, Revenue and Financial Secretary to Government, Punjab.

I AM directed to forward a Note by Mr. Thorburn on the principles applicable to State Canal assessments in the Punjab. The object of the Note will be apparent from a perusal of its first paragraph. With the Note are five Appendices—

A. A summary of fact and of opinion on Canal assessment in the Punjab.

B. A Note on the system of assessment in use on State Perennial Canals.

C. A Note on the system of assessment in use on the chief Inundation and Private Canals.

D. Rough Notes on—

I.—Adjustment of assessment rates on Canals to varying conditions governing powers of production in each block, *mauza*, or square.

II.—An automatic sliding scale for commutation prices on Canals.

E. *Précis* of replies of officers consulted as to Appendix D.

The Note and the Appendices contain a considerable amount of information which Mr. Thorburn hopes will be useful in future discussions on Canal assessments.

2. I am to suggest that a small Committee of Revenue and Irrigation Officers might be appointed to consider any points in the Note which His Honor the Lieutenant-Governor may wish to have further threshed out.

Note on the principles applicable to State Canal assessments in the Punjab.

Reasons for, and objects of, inquiry into the subject.

1. A year ago in paragraph 11 of my Review of the Assessment Report of the Pákpattan Tahsil in Montgomery I gave a concrete example of the complicated system of assessment to which the proposals previously sanctioned for the Dipálpur Tahsil had committed us. Again, when three months later reviewing the Assessment Report of the Sohág Pára Colony in the same district, in paragraphs 6 to 13 I sketched the evolution of our canal rates and ventured to think that a "consolidated canal-irrigation rate levied wholly from the occupier * * * , but recoverable also from the owner in case of default by the tenant will win in the end" (paragraph 10). These two cases and previous experience when, as Commissioner of Ráwalpindi, considering proposals for the assessment of *nahri* lands in the Gujránwála and Shahpur districts, led me to suspect that the Punjab systems of canal assessment were needlessly diverse, complex and unaccommodating in that they took insufficient account of variations in power of production from differences in soils, situation of fields, &c., &c., thereby causing either loss of potential revenue on good lands or the over-assessment of poor lands. Subsequent further experience of the system in force in the Chenáb Canal Colony has strengthened my impression that it should be possible to work out principles for canal assessment, the application of which would tend towards simplification and uniformity of practice and better adjust the demand to the outturn. In the clear and able paper attached to this Note (Appendix A) Mr. W. S. Hamilton, Senior Secretary, has given an account of the history of canal rates and assessment in the Punjab, and shows how the problem now stands. Having read and considered the official literature on this somewhat intricate subject (see references given in Mr. Hamilton's paper), I think I am in a position to offer a useful contribution towards its further elucidation. My wish is to arrive at clear principles based on clear arguments in respect of the future assessment of private and State lands under perennial and inundation canals, so that the objections to the existing system as noted above may be gradually removed.

Conclusions of experts on canal assessments.

2. Starting from Mr. Hamilton's *résumé* of fact and opinion he sums up in his paragraph 17 the chief conclusions accepted by expert opinion up to the present stage in this long discussion, as follows :—

(*a*). Water-rates (occupier's rates) on irrigation and inundation canals represent the commercial price of water supplied to the cultivator and are not maintenance rates.

(*b*). Occupier's rates should not be pitched so high as to prevent the owners getting any profit from irrigation.

(*c*). The question of the loss of cesses need not be taken into account when it is proposed to substitute high occupier's rates for owner's rates or for land-revenue in the shape of *nahri parta* or water-advantage land-revenue rate as the Government of India will make the necessary distribution of income between the different departments. Only the total sum to be taken need be considered.

(*d*). Owner's rate is, or will sooner or later be, always paid by the occupier. It is therefore an inefficient means for tapping the owner's profits. The only occasion on which it should be imposed is when during the currency of settlement it is desired to impose a tax on the owner. It will in such cases probably serve its purpose for a short time.

(*e*). Non-disturbance of existing relations between owners and tenants is an important consideration in arranging for the assessment of canal rates.

(*f*). On a new canal the ideal assessment is a single set of occupier's rates pitched so high as to leave only a little profit to the owner.

(*g*). On old canals where for practical reasons (*e.g.*, non-disturbance of the relations between owner and tenant) it is inadvisable to impose full occupier's rates, a *nahri parta* is the best form of assessment to impose on owners as — *i*) it can be varied from village to village and in accordance with the quality of the land and the means of irrigation; (*ii*) it is less likely to be passed down by the owner on to the tenant than an owner's rate or fluctuating water-advantage rate, as it is *báchhed* with the ordinary land-revenue and regarded as such.

(*h*). If the amendment of the Canal Act now under consideration with a view to making the occupier's rates leviable from the owner in case of the default of the occupier becomes law, there will be no danger or technical difficulty in making the occupier liable for the whole of the canal charges.

Four preliminary questions stated.

3. Before examining the above conclusions it is advisable to arrive at clear findings on the following subjects :—

(*i*) the character of the charges known as "owner's rate," "*nahri parta*," and "water-advantage land-revenue";

(*ii*) the extent to which a landowner does and can shift the payment of such dues from himself on to his tenant;

(*iii*) the connection, if any, between the half-rental standard for our land-revenue demand and *nahri parta* or water-advantage land-revenue;

(*iv*) the limit of the State's demand on account of increased receipts due to canal-irrigation.

(*i*). Character of the dues.

4. As to (*i*) *the character of the dues named.*—All three charges are devices for taxing the landowner's "unearned increment" due to his land having become irrigated or irrigable from a State Canal, and to the moderation of the pitch of the water (occupier's) rates taken from the occupier in whole or part payment for the water applied by him to his fields.

The Canal Act (1873) apportioned canal charges between "occupier" and "owner," but in 1891, when the system of assessment for the Bári Doáb Canal was under revision, it was decided to merge the "owner's" into the "occupier's" rate, and to tax the owner separately under the Land Revenue Act. This new rate was called "*nahri parta*," and though book-credited to the Irrigation Department as canal-revenue was treated otherwise as if land-revenue. In other words the "occupier's rate" was pushed up to nearer the estimated price of the water taken, the old "owner's rate" was abolished and a new owner's rate created under the Land Revenue Act.

Being so treated it might be fixed or fluctuating according to circumstances. When fixed it was most suitable for lands under secure irrigation from perennial canals, when fluctuating for lands under the less secure irrigation of inundation canals. By degrees, then, the term "*nahri parta*" came to be used when it was a fixed rating, and the term "water-advantage land-revenue," when the charge was fluctuating. Essentially, both are canal receipts, and all canal receipts are at bottom payments made either on account of the price of the water taken or on account of the canal-advantage due to the permanent improvement and higher value of the land caused by its having become canal-commanded. The root distinction between land-revenue and State-canal receipts seems this. The former is the State's share of rent accruing to a landowner from his own action, whereas the latter is income accruing to the State from State-action. The whole of that income, however called or distributed, is a return to the canal-owner for his expenditure in making and maintaining the canal. Were Government to take the full price of the water from the occupier,

there would be hardly any profits for the owner, except in so far that the owner would be sure of having his land cultivated, whereas, otherwise, his land might lie waste, and if so, appreciable *nahri parta* could hardly be taken from irrigated land, but only from irrigable yet unirrigated land in return for canal-advantage. *Quâ* irrigated land, instead of taking all canal charges from the occupier, Government takes so much from him and so much from his master, the owner, and aims at leaving both some gains from the canal. The problem is how to secure such a result, how to prevent the landowner from absorbing all profits and rack-renting his tenant. This brings me on to (*ii*).

(*ii*). Charges on owner paid by tenant.

5. As to (*ii*) *the shifting of dues by owner on to his tenant.*—Obviously a landowner will, as soon as a *nahri* tract has become fully colonised and developed, take all he can get from his tenant. The ultimately stable relations between landlord and tenant, *i.e.*, master and servant, will be governed by the law of labour which is all the world over that masters, when they can, sweat their servants, unless the latter can protect themselves by combination or are protected by law—the latter an unlikely and probably impracticable measure in India. As a rule, wherever we have imposed the water-advantage land-revenue rate, it is immediately paid by the occupier, because, being on the same basis as the occupier's rate, it is indistinguishable from it; where the fixed *nahri parta* is taken it is believed as yet to be usually paid directly by the landowner being indistinguishable from land-revenue and levied on the same basis as land-revenue. Sufficient time has not yet passed since its invention for us to determine the extent to which the *nahri parta* is being or soon will be passed down on to the tenant. In every case we may be certain that as soon as tenant-competition for land becomes keen the landowner will absorb all or by far the major part of the profits derived from canal-irrigation, and thus he, not his tenant, will be the great or only gainer from the Government's moderation in the pitch of the rates imposed on account of the increased production made possible by State expenditure. Whether he takes his whole rent in kind and directly pays rates charged against himself or shifts them on to his tenant makes no difference.

(*iii*). Connection between *nahri parta* and land-revenue.

6. As to (*iii*) *connection between nahri parta and land-revenue.*—As already seen the landowner's increased net receipts due to a canal are chiefly the difference between the moderate price exacted by the canal-owner for his water and the share of the canal-augmented yields taken by the landowner from his tenant. Though these receipts are rent, they have no connection with the rent to half of which the State has limited its demand for land-revenue. That rent is a consequence of the landowner's own action, whereas canal-derived rent is a consequence of the State's action. *Nahri parta* and water-advantage land-revenue are treated as land-revenue not so much because they are essentially land-revenue, but rather as an arrangement of administrative convenience in order to overcome technical and other difficulties connected with the levy of the extra cesses, the reasonable claims of landlords to receive some advantage from canal extension to lands held by cash-paying occupancy tenants, the expectations of revenue assignees, and the share of the land-revenue credited to Provincial Revenue. It follows, then, that although it has pleased Government to fix half the rental as the standard for its demand for land-revenue properly so called, that standard should not be applied in the case of the *nahri parta* or water-advantage land-revenue. As Settlement Officers sometimes misapprehend the distinction, the assessment instructions in paragraphs 1—4 of Revenue Circular No. 30 will have to be amended to make it clear that the measure of demand for the two items now composing land-revenue is different. I am thus led up to the question of what the limitation should be in charges, however called, levied on account of canal-irrigation or canal-advantage.

(*iv*). Reasons for moderation in the State's charges for its canal water.

7. As to (*iv*) *the limit of the State's demand on account of canal profits, actual or possible.*—Strictly the canal-owner is entitled to the commercial price of the advantages created by his canal. The landowner may charge what he likes for the use of his land; so the canal-owner may charge what he likes for the use of his water. In practice, however, the following considerations preclude the latter

from taking more than a moderate price for the advantages created by his canal, *viz.* :—

(*i*). The canal-owner is the Government, the representative and trustee of the common-wealth, and as such constructs and maintains canals not for gain pure and simple, but rather as commercial enterprises run on philanthropic and utilitarian principles, the objects being whilst getting reasonable interest on the capital expenditure to benefit the people generally by averting famine and relieving over-congestion and the like.

(*ii*). In the undertaking the landowner, when private lands are commanded, is to some extent a partner with the canal-owner, and as such entitled to share in the profits. He supplies the land, the State the water: either contribution to crops without the other would be useless. Were the two owners equals, the landowner would say to the canal-owner "Come let us bargain. Unless you engage to double my net income I shall not permit my servants (tenants) to take your water. Without some such guarantee I dare not deliver myself over to you bound hand and foot, for otherwise having put my wells out of use, caused my field embankments to fall into hopeless disrepair and irrevocably altered my whole system of husbandry, you would hold the monopoly of a necessary for farming (water), and be in a position so to raise your charges as to deprive me of all profits from my land."

(*iii*). When the land is State-owned consideration No. (*ii*) above would have no weight, but the extra share of produce due to the canal-owner as also landowner would be best taken by him as rent.

(*iv*). To secure the normal application of water in seasons of good as well as of short rainfall a fair margin for profit must be left to the landowner, for, though the "occupier"—when a tenant—takes the water, and must be allowed to have water, he is a mere servant of the landowner, and must conform to his wishes or lose his tenancy.

(*v*). As a canal closes and even destroys wells, permanently changes the system of husbandry (where any existed before) and in any case gives the State the monopoly of water, and so of farming, the State is bound to act as a benevolent and not as a hard monopolizer. In short, no landowner would allow his tenants to take canal-water were the charges for it so high as to deny the landowner reasonable profits from the increased production.

But for the impossibility without legislation, which is probably impracticable, of restricting the landowner's demands on his tenants-at-will, the above considerations in favour of moderation would also apply to the pitch of the occupier's rates *plus* the following additional reason, *viz.*, as the occupier's rate is necessarily a fluctuating rate, and in practice it has hitherto been found convenient to make it a uniform crop rate, the nearer uniformity a rating is, the lower must be its pitch.

Findings on questions put in paragraph 3.

8. The findings then on the points noted in paragraph 3 above are to effect—

(*i*). The *nahri parta* and water-advantage land-revenue rates have a closer connection with canal than with land-revenue, being essentially part of the return due to the canal-owner for water supplied or for canal-advantage, which Government finds it advisable to take from the landowner and call land-revenue.

(*ii*). The landowner will always, as soon as local conditions permit, rack-rent his tenant, and whether he takes his rent wholly in kind or cash, or partly in kind and partly by throwing all canal charges on the tenant, is of no consequence.

(*iii*). Under the finding on (*i*) above, the connection between land-revenue proper and *nahri parta* or water-advantage land-revenue is of such a nature that the half-rental limitation for land-revenue does not apply to these rates.

(*iv*). Strictly the State may sell its water for its commercial value, but owing to the five moderating reasons put forward in the last paragraph the State is precluded from doing so, but must let the landowner, and, if possible, the occupier as well, have some share in the profits created by canal-irrigation.

Opinion on conclusions by experts given in paragraph 2.

9. I now refer back to the conclusions (*a*) to (*h*) summarised in paragraph 2 above and note in order my acceptance of, or dissent from, them—

(*a*). I agree, but go further and look on the *nahri parta* and water-advantage land-revenue rate as rather part of the payment due to the canal-owner for canal-water or canal-advantage than as land-revenue proper. The point is only one of technical importance.

(*b*). I agree and think the canal-owner's claim to a share in the canal profits equitably established.

(*c*). Certainly, but Government should make it easy for the Settlement Officer to have effect given to this declaration. It would be a long step towards simplicity and a clear perception of the full results of assessment proposals if "only the total sum to be taken need be considered.*"

(*d*). I agree with both propositions.

(*e*). This proposition to be useful requires amplification. "Existing relations" between landlords and tenants should only not be disturbed when they are in a stable condition. If, as often, rents are still rising, or there is still room for a rise, then the non-disturbance of "existing relations" is not a good reason for failing to adopt a reasonable and simple system for canal assessment. I am inclined to think that in 1892 when for the Western Jumna Canal the unsoundness of varying the "owner's rate" according to the "occupier's rate" was demonstrated the principle of preserving "existing relations" was allowed far too much weight. Had the assessment been then made on sound principles, rents would soon have adjusted themselves, and we should have been rid for good of an owner's rate imposed at half the occupier's rate (see Appendix A, paragraph 9).

(*f*). See below paragraph 13.

(*g*). See below paragraph 13.

(*h*). I agree.

Present systems of assessment on State perennial canals.

10. Before discussing the subjects in the last paragraph held over for consideration, I note shortly the systems of assessment in force on the great perennial State Canals of the Province, *viz.*, (1) Swát River, (2) Western Jumna, (3) Bári Doáb, (4) Sirhind, (5) Chenáb. In Appendix B some details of the system followed on each canal are given. I have had this prepared because I have been unable to find any clear account of the various systems obtaining later than a note on the subject drawn up by Lieutenant-Colonel Home, Officiating Chief

* I have always held that the system of making our assessments and ignoring the extra cesses—keeping them out of sight in our assessment figures—is clumsy, inequitable and indefensible. After elaborate discussion and the preparation of careful statistics and estimates an enhancement of assessment of say one lakh is sanctioned whereas in reality Rs. 25,000 additional are taken in cesses. It would be far more simple and satisfactory to all concerned to abolish extra cesses altogether, push up our assessments and meet cesses out of collections. If the declaration here referred to is readily carried out the question of the loss of cesses need not perturb the Settlement Officer's mind, but as a fact up to date it does trouble him as he cannot be sure whether his putwári and field kánúngo establishment will be properly provided for, and, unless adequately paid, he knows inefficiency will result.

Engineer, dated 22nd December 1887. On all these canals fairly heavy crop differential occupier's rates are taken on matured crops, which are divided into from three to six classes, each with its distinctive rating. In addition, the owner is assessed to an owner's rate or to land-revenue, including, in the latter term, *nahri parta* and water-advantage rate, as follows:—On the Swát River and Bári Doáb through a fixed rate split up for account purposes into *nahri parta* and dry land-revenue: on the Western Jumna through an owner's rate at half the occupier's rate: on the Sirhind through a small dry land-revenue rate alone: on the Chenáb through a dry assessment *plus* an owner's rate of Re. 1 per acre on the area irrigated. On all five canals the rating on the owner, however called, amounts to a small fraction (usually not more than Re. 1 per acre) of the aggregate assessment collected from each irrigated acre. These rates are in some cases uniform either for the whole canal or for a whole circle, and in some cases—as in Amritsar and some other districts—they have been varied so as to meet to some extent the unequal productiveness of different soils and localities. As, however, the whole acreage assessment on the owner is small, a real adjustment is out of the question. This consideration may have influenced assessing officers against discrimination when distributing the demand.

Of the existing systems for securing to Government its fair share in the increased rental accruing to the landowner from State-canal irrigation, that on the Western Jumna Canal, though admittedly unsound in principle and thoroughly discredited, has been maintained for the present at least by the Government of India because its supersession would have upset the established relations between owners and tenants. As it will not be adopted elsewhere it need not be further discussed here. Of the others the Chenáb device of an "owner's rate" on the area irrigated was condemned by the Government of India, who wrote that they "would much prefer that the owner's rate should be abolished on the Chenáb Canal, and that the occupier's rate should be levied at the rates proposed subject to increase after ten years" (paragraph 3, Government of India No. 231 I., dated September 10th, 1892). In reply the practical difficulty of adopting the system approved by the Government of India was explained and the announcement was made that the Punjab Government would have no owner's rates on canals to be made in the future, an announcement which was accepted with satisfaction by the Government of India. Thus the owner's rate, *i.e.*, an assessment on the owner levied under the Canal Act, is now outside discussion, and may in future only be imposed for temporary purposes during the currency of a Settlement, *e.g.*, on the Sirhind Canal.

Question narrowed into the future of the *nahri parta*.

11. The owner's rate being discredited, except perhaps as an occasional temporary expedient, the only questions for consideration concern conclusions (*f*) and (*g*) of paragraph 2 above. Obviously throughout the "short-rain" tracts of the Punjab, say roughly, the country south of a curved line drawn through Miánwáli, Shahpur, Ferozepore, and Umballa, canal-irrigation is the only satisfactory means for farming lands, which would otherwise be *báráni*, and as such only patchily culturable in good years. Most future extensions of old canals, the Chenáb Canal in process of development, the Jhelum Canal now begun, and the projected Sind Ságar Doáb or Indus Canal will all irrigate lands falling within the above description. Even, as it is, the "dry" assessment upon *nahri* lands north of the above line but south of the Grand Trunk Road is insignificant. A "dry" assessment therefore will hardly be worth imposing on lands which will in future be canal-irrigated. If so the only fixed assessment of any account, which may well be taken, will be the *nahri parta*. The water-advantage land-revenue rate may for the present be disregarded as we are here dealing with perennial canals only. Thus the questions led up to are—

(*i*) whether the *nahri parta* should be continued or given up—all canal charges being in the latter case consolidated with an "occupier's rate," and

(*ii*) if continued, at what pitch.

Reasons for maintaining the *nahri parta* and even raising it.

12. In coming to conclusions on the above two issues the following considerations have to be weighed:—

(*i*). A fixed assessment is warranted by the constancy of the water-supply and the necessity of reasonably safe guarding the State (canal-owner) against loss from serious contraction in the area irrigated in seasons of good rainfall.

(*ii*). Even though water be not taken, canal-advantage quintuples or more the value of land, and as this appreciation benefits the land-owner, not his tenant, the former should pay some assessment.

(*iii*). As the dry rate, if any, will usually be very low, unless a *nahri parta* is imposed, the landowner would practically escape direct assessment, which would be an anomaly and even distasteful to him as he regards his position as a land-revenue payer as evidence of his honourable *status*.

(*iv*). Unless a fixed assessment is imposed the assessing officer has no means of adjusting his demand to soil and situation peculiarities, for it is believed that the fluctuating occupier's rate—which, to some extent, meets the difficulty by being differentiated on crops—cannot be conveniently varied inside any large to considerable unit—canal area, circle, or possibly village.

(*v*). Because of the obligation (hitherto little regarded) to adjust the demand to productive capacity and market value of land, the fixed rating on the owner,—*nahri parta* with or without a dry assessment,—should be high enough to enable the assessing officer effectually to carry out the adjustment noted in (*iv*).

(*vi*). For purposes of policy, revenue assignments, and the retardation of the shifting of the whole of the canal charges on to the tenant, a *nahri parta* taken from the owner as land-revenue is advisable.

(*vii*). Even where there are no private owners, only Government lessees or crown tenants, considerations (*i*), (*iv*), (*v*), unless some means of adjustment are found compatible with full fluctuation, point to the usefulness of the function which a fixed assessment on perennial canals performs.

(*viii*). Were all canal charges lumped into the fluctuating occupier's rate, the occupier on private lands might between canal-owner and land-owner be so rack-rented and impoverished that the weight of the burden on him might cause him to avoid growing high-charged crops and even to leave irrigable land unirrigated except in drought seasons. Very high occupier's rates might alone produce such a result.

As regards the above, I should note that as the demand on account of *nahri parta* need not be limited to half the net assets (see paragraph 6 above) its pitch can always be adequate to meet the requirements of propositions (*iv*), (*v*) and (*viii*), and further that where the occupier's rate (fluctuating) and the *nahri parta* (fixed) are concentrated on one person from necessity, as when the owner is self-cultivating, or from convenience, as in the case of the Swát River Canal, the amendment of the Canal Act referred to in conclusion (*h*) paragraph 2 above will remove all technical difficulty.

Findings on maintenance and pitch of the *nahri parta*.

13. Some of the above considerations were not present in my mind when I wrote paragraph 10 of the review of the assessment report of the Soh́ág-Pára Colony. I am now constrained to conclude that on private lands, whether already irrigated or only commanded by State canals,—

(*a*) the *nahri parta* should not be given up;

(*b*) the pitch of the *nahri parta*, with or without a dry rate included, should be high enough to effect fully the adjustment required under considerations (*iv*) and (*v*) of the last paragraph;

(c) as to State lands, if considerations (*i*), (*iv*), (*v*) can be sufficiently met, there would be a net advantage in consolidating the whole demand, including cesses, into one fully fluctuating rating—the advantages being simplicity and the proportioning of each harvest's demand to that harvest's outturn. Contingency (*viii*) would not here apply as crown tenants and Government lessees —unless sub-division is allowed to impoverish successors—are men of some thrift, intelligence and property; and they, not their irresponsible cultivators (if any), would be assessed.

In coming to the above conclusions, I to some extent surrender my previous predilection in favour of a consolidated crop differential rating (including cesses) on one person "occupier" or "owner" as convenient, as considerations (*i*), (*iv*), (*v*) of the last paragraph appear to present insuperable difficulties against such ideal simplicity.

Systems of assessment on inundation canals.

14. There remains the case of Government inundation canals. The most important of them are shown and the systems obtaining on them are described in Appendix C to this Note. The *chher* practice which obtains in two of them (Nos. 4 and 7) will shortly be abolished in No. 4, and then all but No. 7 will be paying an occupier's rate *plus* either a low fluctuating water-advantage land-revenue rate (sometimes, *e.g.*, on No. 3 assessed on irrigated not cropped acreage) or a fixed wet revenue rate. For No. 1 the Sidhnái,* now under revision of assessment, the continuance in a modified form of the existing system, *i.e.*, a consolidated rating on matured crops to be taken from the "owner" has been recommended and the decision of Government is awaited. On the whole, I am decidedly of opinion that, on this class of canals there should be no fixity, except perhaps, a remissible lump assessment on wells. The case resembles that of our riverain *sailáb* lands, in which production depends on inconstant factors, flooding or percolation from the river *plus* in many cases the successful making and maintenance of embankments. Irrigation from inundation canals depends also on floods and the making and maintenance of head-works and channels. In both cases the uncertainty of supply is usually so real as to make any fixity an unsuitable mode of assessment. In the case of inundation canals, then, consolidated crop differential-rates, including cesses, levied on the owner or occupier as may be convenient or split up into an "occupier's rate" on the occupier and a water-advantage land-revenue rate on the owner—both being taken on the harvested area—seem as a general rule the most suitable. The objection that, if split up, the two rates, being assessed on the same basis, will be paid by the occupier has weight. This being so, I prefer the Sidhnai system of a consolidated rate on the owner as simpler, more convenient and saddling the responsible man of means with the payment of the whole assessment.

Two further questions stated.

15. I now pass on to two other matters in canal assessments which have lately engaged my attention, *viz.* :—

I.—How to adjust assessment rates on canals to the varying conditions governing powers of production in each zone, block, *mauza*, or other area.

II.—Whether by means of an automatic sliding scale for prices of produce or, as now appears the better plan, by taking famine years into account in fixing produce-commutation prices for canal-irrigated lands, the "unearned increment" due to famine obtained by owners of canal lands cannot be tapped.

In Appendix D my original note on the above two subjects written solely with reference to the system on the Chenáb Canal is given. It was sent out to certain officers for the favour of their opinion. A *précis* of their replies appears as Appendix E. Some of the officers consulted, perhaps because of my too great brevity, have not fully understood Question I, and Messrs. Beresford and Wilson have given no opinions but referred me to some printed

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* The Sidhnai works rather as an inundation than a perennial canal. It is classed by the Irrigation Department as the latter, but because of its working has been here and in Appendix C treated as an inundation canal.

papers,—Mr. Wilson to his note regarding assessments on the Sirhind Canal on page 499 of Financial Commissioner's Selections No. LXII, and Mr. Beresford to Remarks by the Government of India on papers regarding "the practicability of conducting a precise enquiry into the actual value of canal-water" (Government of India No. 935—266-3 of May 1st, 1899). Notes on both appear in Appendix E. Mr. Sidney Preston, who, I understood, had once advocated a system of assessing perennial canal-irrigated lands in zones or blocks, writing from Allahabad, hoped to send me a reply through Mr. Beresford, but as yet has not done so. There seems no good reason for delaying the submission of the general case in order that this subsidiary branch of it should be first further examined. With the help of the opinions given I have myself arrived at a definite conclusion on Question I, and as to Question II, which is perhaps of less importance, and is received by most officers consulted with distrust or disfavour, I think my original proposal must yield to the alternative of taking higher commutation prices on canal than on other lands.

Question I—Adjusting State perennial canal rates to soils.

16. As to Question I.—*The adjusting of canal rates to varying powers of production in different soils.* The State perennial canals of the Punjab (see paragraph 6 above) each of which irrigates a stretch of country from north to south or south-west of from 100 to 150 miles in length, flow through zones or blocks of varying productive power due to differences in soil, situation and rainfall. Inside the area commanded by one of these large canals the range of value between units whether squares or other larger measure, may be as great as it is between *cháhi* and *báráni* lands inside an assessment circle or village. This fact can be proved by an examination of Settlement Reports, also sale and lease-deeds. In spite of these variations and of the fact that the principle of differentiation in fixed rates has long been accepted—though the scope for application is too small for reasons noted in paragraphs 10 and 11 above—it has either been not applied at all or has been so to such a small extent as to effect no real adjustment between the aggregate amount levied per unit of area and that unit's producing power. I find that on the Kábul River Canal water-rates* are differentiated by assessment circles, on the Bári Doáb Canal the small *nahri parta* varies between estates, and on the "old villages" on the Chenáb Canal (Gujránwála district) between circle and circle. Throughout the colonised lands of the Chenáb Canal the assessment rates are uniform, but of course here proper differentiation would have been impossible until colonization had been effected and facts built up with experience. In Appendix D the case of these lands is alone given.

A step towards adjustment of demand to value of produce or land is effected by the adoption of a system of crop-differential water-rates, but the correction so obtained is really very imperfect, because a large percentage of all lands must produce some of the superior staples, wheat, cotton, &c. Seeing that for the assessment and distribution of land-revenue we pitch our rates inside each assessment circle variously for villages *inter se*, and even for *báráni* plots inside each village according to the soil classification, we should do the same to the extent possible and necessary for true adjustment of demand to production in our canal ratings, *i.e.*, in our water rates, *nahri parta* and even water-advantage land-revenue. As under uniformity a canal assessment, *i.e.*, the aggregate sum taken on each acre, will exactly suit average lands, superior lands must be under and inferior over-assessed. If so, the net result must either be inequality of assessment or more usually I expect a loss of potential revenue to Government. There would obviously be some slight administrative, and considerable account inconvenience, were the water-rates varied inside any area smaller than a very large unit—say a zone or assessment circle of 50 or more villages—but provided the unit is large enough, I think the inconvenience would be inappreciable, and even where considerable should be accepted when necessary to gain full adjustment. I suggest, therefore, that wherever soil or rainfall variations between head and tail of a canal are great, its commanded area should be divided into two or more zones or assessment circles, each with its appropriate scale of water-rates. Another means of effecting the object in view, adjustment, would be to keep the uniform scale of water rates very moderate, and push up considerably the fixed rating (*nahri parta* and land-revenue), which

would be distributed according to soil classification in the ordinary way for true land-revenue. *Primâ facie* there seems no reason against the adoption of both methods on the same canal. I have already on general grounds (paragraph 13 above) advised that the *nahri parta* should cover a larger fraction of the aggregate assessment on any unit than it now does.

Objections met.

17. I do not think any officer consulted, who has not been favourably disposed to the view put forth in Appendix D or in the last paragraph, has shown good cause against it. That a fuller *kharába* discount would be helpful I admit, but it would be no full correction. It would not adjust the demand to soil variations because the same staples are grown generally on all soils. The old *batái* system, under which the State took its revenue in kind or kind commuted into cash harvest by harvest, is ideally the best for our Punjábi farmers, because it proportions the demand to the yield. It was early given up by us as inconvenient or impracticable and yet every step we can advance towards full adjustment is a clear gain for our needy *zamíndárs* and for the State as well, as the State is advantaged thereby by decreased borrowing, decreased occasion for land alienation and increased revenue. I fail to see any good reason for not assimilating, to the extent above suggested, the principles and practice of canal assessment to those of ordinary land-revenue in non-canal estates, *i.e.*, we should apply uniformity in scale of water-rates not to the whole length of a canal, but to each zone or assessment circle or, if necessary, village in it, and generally lower for each acre the fraction of aggregate demand taken as water-rates, so as to leave the fixed fraction sufficiently large to let it be distributed over villages and soils as if ordinary land-revenue. If we do this we shall proportion the demand on each minimum unit, usually perhaps the *mauza*, to its productive capacity and value.

The case of inundation canals of comparatively small importance.

18. As regards inundation canals the question is provincially of less importance, though of moment to individual owners. Excluding from the account private and *zamíndári* canals, such as those of Peshâwar and Bannu, also district canals, the area irrigated by means of inundation canals is roundly one-third of that under State perennial canals and the net acreage demand from the former is about half what it is from the latter. These latter are comparatively short canals, irrigate small areas and except to the extent that canal action alters soils—particularly levels—the soil under each inundation canal is of fairly uniform quality. Hitherto the assessment appears to have been usually fixed—wet rates being taken and distributed like ordinary land-revenue. It is an unsatisfactory system and has hitherto been in force in Mooltan and Muzaffargarh. It is probable that in future the assessment will be fully fluctuating, except that a lump sum may be assessed on wells, its aggregate being distributed like ordinary land-revenue. If so on inundation canals we shall have crop differentiation for water-rates *plus* a fluctuating water-advantage land-revenue and perhaps a lump sum fixed on wells. There is no reason why the pitch of these fluctuating rates should not be varied for circles and even villages, if the latter is advisable. If this is done the adjustment will be as complete as possible.

Automatic adjustment of demand for canal lands to meet profits in famine and losses in plethora times.

19. As to Question II—*An automatic sliding scale for famine and plethora times*,—the argument put in Appendix D II is shortly this. We base our assessments on all lands on the estimated rental converted into cash at rates a good deal cheaper than the true average of actual *zamíndári* prices. In so fixing prices famine prices have hitherto been excluded. Their exclusion for *nahri*, *i.e.*, absolutely secure lands, is indefensible because on such the yields are constant, and the severer the scarcity the greater are the profits of the land-owner. I understand that in Mr. Douie's forthcoming Settlement Manual a remark to the effect that it is not necessary to exclude famine years in fixing commutations for canal-irrigated will be inserted. For insecure lands, *i.e.*, *báráni* and practically all but canal-lands, when drought causes excessive *kharába* and raises staples to famine rates, we suspend liberally, and later remit as occasion requires. We thus treat the owners of non-*nahri* lands handsomely in normal years, but with far greater generosity

in famine or drought years. Turning to *nahri* lands, we find that their owners are equally well treated in normal years, but are so enormously benefited by scarcity prices in famine years that their properly taxable profits are then higher than in normal years by from 25 per cent. to 100 per cent., and that of this "unearned increment" Government gets no share. This is throwing away legitimate revenue. There are two ways open to us to prevent this unreasonable loss of revenue. We can adopt the sliding scale suggested in Appendix D II, or pitch commutation prices higher for canal than for other tracts. The proposal under the former plan is that, when produce is selling on canal lands dearer than whatever the famine-index figure may be, we should raise the demand by so many annas per rupee. Conversely to be fair all round, in the extremely rare cases of plethora prices (in thirty-four and a half years' service I only remember two, and probably the extension of Railways will prevent a recurrence) we might well lower the demand by so many annas per rupee. The chief reasons put forward for objecting to this proposal are that it would be "unpopular," or a breach of contract. It could not be the latter, because no change suggested in the course of this paper is intended to be introduced except under the sanction of a new contract when existing contracts terminate or break down. As to the former, "unpopularity" *per se* is no argument, unless the soundness of the plea can be demonstrated by convincing argument. Every new departure, especially in taxation, is "unpopular," yet new departures are often necessary and have to be taken. However, I have no strong reason for pressing the suggestion put forward in Appendix D II, as the same result can be obtained by the alternative already mentioned, *viz.*, by fixing commutation prices for canal tracts appreciably higher than for non-canal tracts. Hitherto the rule and practice have been to exclude famine years from the calculation for all lands alike. This is right for tracts liable to famine, but wrong for canal-irrigated tracts which gain enormously by high prices. Further, as already said, I understand that the principle has been adopted by Government that in fixing the average of prices for canal lands famine years need not be omitted. All that is wanted then is to affirm the principle positively, and amend paragraph 12 (page 173, Revenue Circulars) of our assessment instructions in such a way that assessing officers be directed when preparing their price averages for canal lands to include famine and scarcity years. If so, in future, we shall have two sets of commutation prices, one for canal and one for non-canal lands. For example, taking wheat as an exemplar, if its rate be fixed at 25 sérs for the latter, it will be about 22½ or 23 sérs for the former. This would give the correction required, and the principle having been or being about to be asserted by Government and wholly unobjectionable in itself, it is perhaps a better plan to adopt than that put forward in my original note on the subject.

S. S. THORBURN,
Financial Commissioner.

Dated 8th June 1899.

APPENDIX A.

A summary of fact and of opinion on Canal Assessment in the Punjab.

1. The management of canals in the Punjab was at first governed by Act VII of 1845 (*vide* page 39 of *Papers relating to the Northern India Canal Drainage Bill). This Act originally applied only to the North-Western Provinces. It was, however, apparently extended to the Punjab at an early date, as there are rules under it applying to the Bári Doáb Canal as early as 1860.

Act VII of 1845.

* Hereafter referred to as Papers, 1870.

Section 2 of the Act gave the Lieutenant-Governor power to make rules for the levy of water-rate. The rules relating to the various canals provided for the supply of water on payment of certain rates. On the Western Jumna Canal these rates varied from Rs. 5 to 10 annas 8 pies per acre per crop for flow irrigation. On the Bári Doáb Canal the rate was 4 annas per *kanál* (=about Rs. 2-4-0 per acre).

2. Prior to 1867 it seems to have been the custom to assess canal lands at irrigated rates fixed for the term of settlement and to charge *ábiána* only for the use of water. In that year Mr. Prinsep, as Settlement Commissioner, took up the question of the assessment of canal-irrigated lands in connection with the settlement of the districts of the Amritsar Division. His proposal as summarized in Punjab Government letter No. 500, dated 4th July 1868, was that "the enhancement of land revenue on canal-irrigated land, resulting from increased productiveness caused by the canal, over and above what is represented by the water rent, or *ábiána*, charged by the Canal Department, instead of being charged only on lands which are irrigated from canals at the time of settlement, will be added also year to year to the assessment of all lands that may hereafter receive water from the canal." So far as I understand the matter, canal lands were to be assessed at dry rates, and besides that a fixed assessment of the kind, now called *nahri parta*, was to be imposed on all such lands. This additional fixed assessment would be added on to the dry assessment whenever lands previously unirrigated became irrigated and similarly would be taken off lands which, having been previously irrigated, were for any reason deprived of the means of irrigation. The rates imposed on the Bári Doáb in accordance with Mr. Prinsep's principles were purely fluctuating.

Early system of assessment of canal-irrigated lands and proposals of Mr. Prinsep.

Page 165 of Papers, 1870.

The Punjab Government strongly supported Mr. Prinsep's proposals which were submitted to the Government of India. Colonel Strachey recorded a note* on the subject and expressed a preference for a true owner's rate rather than for an irrigated *land revenue* assessment such as Mr. Prinsep advocated. The difference between the land revenue assessment desired by Mr. Prinsep and the owner's rate preferred by Colonel Strachey lay in the following points :—

Punjab Government etter No. 500 of 4th July 1868.

*Page 172 of Papers, 1870.

(1). The land revenue assessment would of course be assessed under the Land Revenue Act, whilst the owner's rate would be assessed under the Canal Act which was then under consideration in draft.

(2). The land revenue assessment could be imposed only at settlement in any district, whereas the owner's rate could be imposed at any time.

(3). The rate of the land revenue assessment would have to be fixed for the term of settlement, whereas the owner's rate could be altered from time to time like water-rates.

The object of both proposals was the same, *viz.*, to tax the landlord's unearned increment due to the increase in the value of rents owing to irrigation. Colonel Strachey therefore proposed that the Punjab Government should consider how to amend the Draft Bill then under consideration with a view to getting power to impose a rate on the landowner.

3. We can now turn to the Draft Bill for the Regulation of Irrigation Works which was then under the consideration of the Punjab Government and the Government of India.

Draft Canal Bill of 1867.

In 1867 Colonel Strachey, Inspector-General of Irrigation Works, drew up a Draft Bill intended primarily to apply to the Punjab, the Government of which Province had already submitted to the Government of India a draft Canal Bill. In Section 45 of the draft the Local Government was given power to make rules for the distribution of, and payment for, water, and it was proposed to enact that "any person who derives benefit from any use of the said water shall *primâ facie* be deemed to be chargeable for that use of such water."

Page 140 of Papers, 1870.

Section 45 A runs as follows :—

"The charge for water supplied for irrigation may be made as the said rules direct, either as a rate to be paid by the owner, or by the occupier of the land benefited, or partly by the owner and partly by the occupier.",

and section 45 D—

"When a rate shall be charged on the owner of any land for water supplied for the irrigation of such land, the said owner may recover the amount of such rate, together with 10 per cent. in addition thereto, from the occupier of the said land, and when rent is paid by the said occupier, the said amount, with the addition thereto, may be recovered over and above the said rent."

This section seems designed to defeat one of the declared objects of an "owner's rate" and to cut away all ground for its imposition. Doubtless the owner would in time transfer his burden on to his tenant, but why specially empower and encourage him to do so, and if so why not have a heavy occupier's rate and no owner's rate?
23rd May 1899. S. S. T.

Colonel Strachey in paragraph 52 of a Note, dated 14th July 1868, writes regarding the above section—"Section 45 provides, as under the present law, that the Local Government shall settle all questions relating to the distribution of the water and the charges for it. I have also thought it desirable to introduce sections, which will admit of the water-rates for irrigation being charged on the owner of lands instead of, or in addition to, the occupier."

Page 125 of Papers, 1870.

It was not explained how this Section 45 D was compatible with the declared object of a rate on the owner, *viz.*, to bring some part of the owner's unearned increment of rent into the coffers of Government.

Raison d'être of owner's rate.
Page 153 of Papers, 1870.

4. That such was however the object aimed at will be seen from a Note recorded by Colonel Strachey in 1867. In paragraphs 42—59 of that Note he dealt with two points :—

(1). Whether some system of compulsory assessment of all lands *irrigable* from a canal should not be introduced.

(2). The separate charge which Government can make—

(i) on the cultivator for the price of the water supplied;

(ii) on the landlord on account of the advantages accruing to him from irrigation.

He concluded that a compulsory rate was advisable as it would lead to an increase of irrigation. He also concluded that as the landlord shared in the profits of irrigation it was just to demand some part of such profits for Government. This seems to be the first differentiation of water-rates into owner's and occupier's rates.

Nature of occupier's and water-rates.

5. As to the nature of the true water-rates or occupier's rates, it had been early seen that these rates were not maintenance rates or anything of that sort, but represented the *price of the water to the cultivator*. Thus the Government of India in 1857 in addressing the North-West Provinces contests the opinion advanced by the Commissioner of Sindh, that "Government has no right to raise an enhanced revenue from irrigated land, other than that which arises from its claim to be re-imbursed for the actual charge that is incurred in the construction or maintenance of the canals or water-courses from which the means of irrigation is supplied." So again the Government of the North-West Provinces in 1865 say as to fixing the pitch of occupier's rates—"the district officers all base their opinions on the relative value of water to different crops, and arrange the scale they would propose accordingly"; and again—"where the supply of water is ascertained by measurement of area of irrigation, the principle of maintaining differential rates according to the quantity of water used, and its value at the season of supply (both which depend upon the description of crop grown) appears to the Lieutenant-Governor to be quite sound." So, too, in their letter to Government the North-West Provinces Board of Revenue had said: "The water-rate should represent the value of the water, and—with the exception* to be noted hereafter—no more." This limitation was apparently made in order that water-rates should not trench on the province of rent or revenue.

Page 305 of Papers, 1870.

Page 293 of Papers, 1870.

Para. 14 of No. 688 of 24th September 1864 on page 297 of Papers, 1870.

* The exception occurs when there is a permanent settlement.

State of opinion as to canal rates and canal assessments at the time of the passing of the Canal Act of 1873.

6. It was when the theory of canal assessment had reached this stage that the Canal Act of 1873 was considered and passed. That is to say, it was then clearly recognized that the occupier's rate was the price of the water supplied, but no definite conclusion had been come to as to the best way in which to tap the owner's profits. The method laid down in the Act was by an *owner's rate*—also called at first water-advantage-rate—which was a *canal rate* meant to represent the enhanced value of the Government share of the produce due to irrigation.

The Bill was considered with special reference to the Punjab. Indeed at one time it was contemplated to apply it only to the Punjab as the North-Western Provinces objected to some of its provisions. But the objectionable sections were cut out, and the Act was applied to the whole of Northern India.

Double canal rates.

For our present purpose the important aspect of the Act is that it provided for the levy of two canal rates—one to be taken from the owner, and the other from the occupier—instead of one rate only leviable from the occupier, as had been the case under the old law and practice. In justification of the double rates Colonel Strachey in the discussion on the Bill said: "It was, no doubt, true that the Government could secure all the returns it could possibly desire to obtain from its irrigation canals by a single water-rate charged either on the occupier alone or the owner of the land alone, but there were great practical objections to either of these courses. First the charge was now* virtually divided, and the system under which it was so divided had continued for many years, and had grown up and became the established custom of the irrigated districts of Upper India. Second, if the whole charge were placed on the owner of the land and the entire responsibility of payment rested on him it would necessarily follow that he must have a control over the water and its distribution. This would involve a power of interference with the cultivator in the crops grown by him, for the nature of the crop would depend on the supply of water. Such an interference was clearly objectionable, to say the least of it, and, in the case of tenants having occupancy rights, it could not be tolerated. Third, if the whole charge were placed on the occupier it would force the party least able to do so to advance the whole sum payable to the Government for the water-rates, and the occupier of the land would commonly be in a position in which he would not be able to pass on to the owner of the land the full or proper proportion of the charge which the owner should in equity bear."

Page 390 of the supplement to the *Gazette of India* of February 26, 1870.

**i.e.*, Presumably in the form of occupier's rates and wet land revenue assessment.
W. S. H.

The present problem of canal assessment.

7. The passage above quoted shows how the problem of canal assessment stood in 1873. Practically the problem is still the same. We can tax the occupier's profits by an occupier's rate which can be raised to any pitch *commercially* possible; but how are we to get at the owner's profits and secure a part of them for the State? In order to get at an answer to this problem it will be best to see how it has been dealt with on the different canals of the Province.

Financial Commissioner's Selections No. LXII, page 437.
Solution on the Sirhind Canal.

8. In 1382 there was considerable discussion as to the method of canal assessment to be introduced on the new Sirhind Canal. General Gulliver was opposed to an owner's rate on the ground that it was almost always paid by the tenant and therefore did not catch any of the owner's profits, that two rates gave extra trouble, and that if one rate were levied, the owner and tenant would come to an agreement as to payment. "If the owner's rate were a varying rate, assessed according to the benefits derived by land on different portions of the canal from irrigation, and in proportion to the dryness of the locality, thus supplying a fluctuating element in the rates charged on different portions of the canal, I would say no word against it." Therefore he proposed the imposition of a single rate. Colonel Home agreed with General Gulliver.

Sir J. Lyall, as Financial Commissioner, supported the Irrigation Officers and referred to a note of his printed in the Proceedings for December 1879, No. 9, in which he expressed the opinion that on new canals occupier's rates should be pitched as high as commercial reasons allow. If this were done the increased rent divisible between Government and the landlord would be small. An owner's rate could be imposed after a time in order to catch this increased rent. Government accepted Sir J. Lyall's view and only occupier's rates were imposed.

Punjab Government letter No. $\frac{51}{1050}$ of 16th August 1883. Selections, page 503.

File $\frac{351}{127}$, page 63.
Solution on the Western Jumna Canal.
Punjab Government Proceedings, Irrigation, No. 1 of January 1893.

9. Next as to the Western Jumna Canal. On this canal an owner's rate was paid at one-half of the occupier's rate whatever that might be. In 1892 Colonel Ottley pointed out in a Note the absurdity of having an owner's rate varying according to the occupier's rates. "The higher the occupier's rate the less profit would necessarily remain for division between the tenant and landlords; whereas according to the Western Jumna system, the higher the occupier's rate is pitched the higher does the owner's rate become, and this seems to me to be opposed not only to law but to equity." He accordingly recommended the abolition of the owner's rate and the raising of the occupier's rates. He recognised that one difficulty in doing this would be the reduction of cesses which are leviable on owner's rate but not on occupier's rates. But he proposed to get over this by adding such an amount to the occupier's rates as would suffice to bring in approximately the same sum as was then brought by in cesses, and handing over this sum to the districts. He suggested the imposition of a single rate (occupier's rate + owner's rate + cesses) till settlement and the imposition of a *nahri parta* (or fixed wet assessment) at settlement.

From Financial Commissioner's letter No. 774 of 19th December 1893 (Punjab Government Proceedings, Irrigation, January 1895, Nos. 15-31) it would seem that owner's rate on the Western Jumna Canal is sometimes paid by the owner and sometimes by the occupier but usually by the occupier. Mr. Rivaz was opposed to the abolition of owner's rate till the revision of settlement, on the ground that such abolition would disturb the relations of owners and tenants. He recommended that the owner's rate should remain at half of the *old* occupier's rates and that new enhanced occupier's rates at the difference between the occupier's rates proposed by Colonel Ottley and the owner's rate should be imposed.

Page 259 of file.

Page 281 of file.

Punjab Government letter No. 1628 of 17th December 1894 sums up the correspondence. Three systems had been considered—

(1). A single consolidated rate including occupier's and owner's rates and cesses.

(2). Owner's rates at the present pitch and enhanced occupier's rates.

(3). Continuance of the present system of owner's rate at half of occupier's rates—any enhancement being put on both proportionately.

Government's decision with regard to (1) was that as owner's rate was to some extent paid by the owner, the abolition of owner's rate would needlessly benefit the landlord at the expense of the tenant; therefore, owner's rate should be retained till resettlement: with regard to (2) that the same objection, though in a less degree, applied as to (1) since the burden of any enhancement would be thrown entirely on the tenant; and moreover the ratio of owner's to occupier's rates would be complicated. For these reasons Government decided in favour of (3) and the Government of India sanctioned this. This decision with regard to the Western Jumna Canal rates appears to have been based entirely on practical considerations with regard to the existing relations between owner and tenant.

Solution of the problem on the Bári Doáb Canal.

10. Now turning to the Bári Doáb Canal. From the date of Mr. Prinsep's Settlements (1868) to 1891 canal-irrigated lands paid—

Proceedings, Revenue (Irrigation) for June 1891.

(*a*) occupier's rates;

(*b*) water-advantage rate (varying from Re. 1-8-0 to Re. 0-12-0), assessed by Mr. Prinsep, and closely corresponding to an owner's rate and assessed under similar rules on the areas irrigated by the canal in each crop. The rate was intended to represent the difference between the renting value of canal-irrigated and of unirrigated land: it varied in different circles and districts, and the receipts from it were credited to land revenue, the canal receiving a book credit for them as "indirect receipts."

The combined occupier's and water-advantage rates were invariably paid by the occupier. Obviously then the old system did not get at the owner's profits. When the revision of rates was considered in 1890, three systems were taken into account—

(1). The Sirhind Canal system of high occupier's rates and no owner's rates;

(2). The Western Jumna Canal system of occupier's rates and owner's rates bearing a fixed proportion to one another;

(3). Occupier's rates with a rate assessed on landowners under the Land Revenue Act, and fluctuating with the area irrigated.

The common object of systems (2) and (3)—an object which would be less certainly secured under (2) than (3)—was to get at the owner's profits and secure a share of them to Government.

Sir J. Lyall advocated the imposition of occupier's rates, made up of the sum of the old occupier's rates and the old water-advantage or owner's rate, together with the imposition of a fixed *nahri* rate assessed like a *cháhi* rate. "This assessment would be imposed by the Settlement Officer under the name of water-advantage or *nahri khush haisyati,* and would be put on like land revenue, but would be kept separate in account and in the *báchh.*" The rate was to be assessed in addition to dry land revenue on all land that had the power of taking canal water and had occasionally taken it.

Paras. 8 and 9 of Punjab Government letter No. 5377 I. of 2nd October 1890.

This is the first appearance of what is now known as *nahri parta.* The term is now technically confined to the fixed water-advantage rate, whereas when the rate is fluctuating it is called "water-advantage land revenue."

Government of India letter No. 51 I. of 23rd March 1891.

The Government of India sanctioned Sir J. Lyall's proposals, but noted that the owners would be able by raising rents to intercept much of the profits from irrigation that ought to go to Government. The Government of India recognised, however, that there were reasons why the owners should be allowed to have some of these profits and agreed that occupier's rates should not be pitched so high as to keep the owner from getting any profit from irrigation. They also agreed to a low *nahri parta,* but thought that the settlement should not be for more than fifteen years. They added that remissions of *nahri parta* should not be allowed if the owner refused to take canal water, as the occupier not the owner should be able to decide whether or not water should be taken. They objected to keeping *nahri parta* separate in the *báchh* as this would be likely to attract the owner's attention to the amount he might pass off on to the occupier.

There is an important note on the subject of the Bári Doáb assessments by the present Lieutenant-Governor on page 17 of the Proceedings for June 1891, Nos. 1—6. One point which is clearly brought out in this note is the meaning of the unirrigated aspect of canal lands. It is not the duty of Canal Officers, Sir Mackworth Young says, "to fix the unirrigated rates for canal-irrigated lands with reference to such rates obtaining in tracts far removed from the influences of the canal, still less with reference to the rates which obtained before canal irrigation was introduced, and they need by no means leave out of account all the influences due to the presence of the canal in order to arrive at unirrigated rate on which the Government may, with due regard to Section 39 of the Canal Act, superimpose an owner's rate, if so minded." The effects of a canal which may be taken into account in fixing a "dry" assessment are given in paragraph 742 of Mr. Ibbetson's Karnál Settlement Report to which Sir Mackworth refers.

In accordance with the sanction of the Government of India *nahri parta* has been imposed in Amritsar and Lahore. It can be imposed during the currency of settlement on lands not irrigable at settlement but made irrigable by any extension of distributaries, or taken off lands irrigable at settlement but no longer irrigable owing to changes carried out in the distributaries by the Canal Department. The rate varies in different tahsils and assessment circles, and there is no reason why in the *báchh* the Settlement Officer should not vary the rate from village to village. In the orders of 1891 it was said: "it might vary from circle to circle and from village to village according to the certainty of the irrigation and the difference between the renting value of unirrigated land and that of canal-irrigated land in the circle or village."

(Page 39 of Lahore Settlement Report).

And again in paragraph 80 of the Amritsar Settlement Report we read "The rate varied according as the irrigation was mainly by lift or by flow, the village was favourably situated for irrigation or the reverse, or according to the quality of the soil to which the water was mainly applied."

In Gurdáspur the canal lands have been put under an assessment which is practically a wet assessment and is not differentiated into a dry rate and a *nahri parta.*

Solution on the Chenáb Canal. Pages 125, 133 and 152 File 451/12 A.

11. *Chenáb Canal.*—It was at first taken for granted that on the Chenáb as on the Sirhind Canal single rates would be imposed (paragraph 13 of Note by Major Ottley, Superintending Engineer, paragraph 15 of Note by Colonel Home, Chief Engineer, received with Punjab Government letter No. 3178 I. of 6th July 1887, and paragraph 13 of Note by Colonel Wace, forwarded with Financial Commissioner's No. 67 C. of 16th August 1887).

Appendix C to Proceedings, Irrigation, July to December 1889.

Then in 1889, when the Revised Estimate for the canal was submitted to the Government of India with Punjab Government letter No. 3824 I. of 18th July 1889, occupier's rates uniform on all crops but differentiated by harvests and an owner's rate were proposed: *vide* paragraphs 10 and 11 of the letter referred to above and Financial Commissioner's Note of 5th July 1889 enclosed therewith.

Page 147 of Chenáb File A.

Then occupier's rates differentiated by crops were proposed in Punjab Government letter No. 090 I. of 11th June 1891 and sanctioned by the Government of India.

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Finally when the canal scheme was enlarged the question of rates again came up and the Financial Commissioner (Sir M. Young) recorded a note on the subject, dated 23rd December 1891. He suggested no alteration in the system of assessment proposed, *viz.,* differential occupier's rates plus an owner's rate of Re. 1, but urged the remission of the whole of the owner's rate on new villages for ten years and of half of it on old villages for the same period. These proposals were accepted by the Government and recommended to the Government of India in paragraph 14 of Punjab Government letter No. 387 I. of 27th January 1892.

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Government of India letter No. 230 I. of 12th September 1892.

The Government of India sanctioned the remission of owner's rate. They, however, argued against the imposition of owner's rate on the ground that it was meant to meet cases in which canal irrigation was introduced during the currency of a settlement, and on the ground that you can take Rs. 2 from the tenant for every rupee you take from

the owner.* They proposed several arrangements by which shortage of cesses, which would result from the abolition of owner's rate, could be overcome.

Unofficial Note on page 185 of File.

Colonel Ottley concurred in the views of the Government of India and supported a single rate including occupier's and owner's rate—the amount that would otherwise be due for cesses being deducted from the gross receipts and handed over to the Civil Department.

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Sir D. Fitzpatrick has a very important note on the question of owner's rate. He considers the Government of India's proposal to abolish owner's rate as regards—

(*a*) canals hereafter to be opened;

(*b*) existing canals other than the Chenáb;

(*c*) the Chenáb;

and according as the lands are cultivated by—

(*a*) proprietors;

(*b*) tenants-at-will;

(*c*) occupancy tenants.

As regards owners and tenants-at-will on NEW canals he decides that it is all the same whether we take owner's rate or not, and as a single rate is the simpler he is in favour of it. In the case of tenants-at-will competition will fix the rents whatever we do.

The question of rate is complicated by the presence of occupancy tenancies.

In the case of occupancy tenants Sir Dennis notes that the occupier's rate would never be fixed so high as to absorb all the profits accruing from irrigation. The owner ought to be allowed some of the profits and Government is entitled to half of what the owner gets as enhanced rent. If the occupancy tenant pays cash rent and we impose occupier's rate the tenant has to pay that sum and no more. If, however, we impose owner's rate we increase the land revenue and the landlord is entitled to have his rent enhanced by the amount by which the land revenue is increased plus a percentage of from 2 annas to 12 annas per rupee of land revenue. Thus the tenant would have to pay some of the additional net profits resulting from irrigation besides the occupier's rates.

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* NOTE.—The force of the above observation will be made clear by the following concrete example:—

Before extension of canal irrigation one acre of land produces Rs. 4 worth of produce and rent-rate is one-half. Therefore shares are—

Government.	*Owner.*	*Tenant.*
Re. 1 (revenue).	Re. 1.	Rs. 2.

Canal water is applied and increases the outturn by Rs. 10 to Rs. 14.

(I).—Suppose Government decides to take all dues from the occupier and fixes the dues at Rs. 9 additional as occupier's rates, then the shares would be—

Government.	*Owner.*	*Tenant.*
Rs. 9 occupier's rate from tenant.	Re. 1-4-0.	Rs. 2-8-0.
Re. 1-4-0 revenue from owner.	...	...

(II).—Suppose, however, Government wishes to put the payments on the owner and only puts a low occupier's rate of Rs. 4 on the tenant, the following difficulty arises:—

		Rs.	a.	p.
Total divisible produce		14	0	0
Deduct occupier's rate as first charge on tenant		4	0	0
	Balance divisible	10	0	0
Shares at old rates	Government	2	8	0
	Owner	2	8	0
	Tenant	5	0	0

Thus if Government takes only half net assets it can get only Rs. 6-8-0 instead of Rs. 10-4-0 which it can get by putting the chief part of the charge on the tenant.

(III).—Supposing, however, Government says "we must have our full Rs. 10-4-0" and to get it must go above half assets.

The result would be—

	Rs.	a.	p.
Total divisible produce	14	0	0
Deduct occupier's rate	4	0	0
Balance divisible	10	0	0

Government makes a demand of Rs. 6-4-0 (*i.e.* Rs. 10-4-0 less Rs. 4) on the owner. The owner will say to the tenant "Government only takes half my assets pay me Rs. 12-8-0." Thus there would be nothing left for the tenant.*

*The assumptions go too far in all three cases. As to (I) Government would never take all the increased outturn due to a canal. As to (II) Government would not limit its demand to half net assets, see paragraph 6 of my Note. As to (III) the owner would use no such argument to his tenant.

8-6-1899. S. S. T.

The landlord ought, it is true, to get some of the additional profits for practical reasons in order to make him interested in irrigation, but the owner's rate should be pitched very low so that the landlord may not get too much. It would be better, however, to have a low *nahri parta* where there is no prospect of great extension of irrigation during settlement.

In the case of occupancy tenants paying *batái,* if we take owner's rate the owner cannot shift any of it on to the tenant. But there would be no harm in this as the owner would gain by the large increase in his share of the produce owing to irrigation. If, on the other hand, we took increased occupier's rates the tenant would have to pay, and though the landlord's rent would be largely increased we could not compel him to pay anything as the Tenancy Act now stands. The best thing to do would be to impose only occupier's rates and take power to make the owner pay a reasonable share of the canal dues. As to cesses the Canal Department should pay to Provincial Revenues the amount of cesses lost by the enhancement of occupier's rates.

On the Chenáb Canal, Sir Dennis continues, it would be all the same if we abolished owner's rate and took only enhanced occupier's rates, but as the conditions of the tenancies are based on the differentiation of rates, it is not worth while changing the rates already imposed.

The final views of Government are contained in Punjab Government letter No. 1757 I of 8th December 1893. They accept the Government of India's proposal to abolish owner's rate on canals hereafter to be constructed. As to cesses and as to new villages on the Chenáb Canal the views given in the Lieutenant-Governor's note are followed.

On page 222.

12. With regard to the old villages on the Chenáb Canal a somewhat different view was taken. In paragraph 154 of the Háfizabad Assessment Report the Settlement Officer said that the system of assessing canal lands at unirrigated rates and taking owner's rates was absolutely unsuited to the tract and would involve an unnecessary sacrifice of revenue. At the time he wrote occupier's rates varied from Rs. 7-8-0 to Rs. 2-8-0, and there was an owner's rate of Re. 1 of which 8 annas was remitted for ten years. He proposed that irrigated lands should be assessed on their merits, and that the *nahri* rate should be extended to areas newly irrigated during the term of settlement if the additional assessment would exceed Rs. 50. He noted that the tenants in all cases paid the owner's rates.

Assessment of old villages on the Chenáb Canal.
File $\frac{21}{238}$.

The Financial Commissioner in paragraph 10 of his Review assumed that the present owner's rate would either be abolished or added to the occupier's rates. On this assumption "it is obviously desirable that the very large profits which landowners are reaping and will increasingly reap in consequence of the construction of the canal should be taxed in some form or another. As an expedient for reaching these profits, a fluctuating owner's rate has been proved to be ineffectual, and therefore the only way to effect the object in view is to impose a fixed wet assessment." He also proposed that the assessment should be revised quadrennially.

Page 168.

Government said that the question of the distribution of revenue between the Civil and the Public Works Department might be left out of account. We may "assume that when we once determine the total aggregate of charges that can fairly and properly be levied from the zamíndárs, the requisite departmental adjustments will, in whatever shape we take that aggregate, be effected by the Government of India." They continued that when a canal is established occupier's rates might conceivably be pitched so high as to leave little profit to the owner; in such a case there would be no ground for imposing a higher revenue assessment than on *báráni*. But the framers of the Canal Act considered that occupier's rates should be much lower than this, so that a considerable margin would accrue to the owner on which the Settlement Officer should assess revenue. If the settlement of a district were going on this could be assessed in the usual way, but during the currency of settlement it would have to be imposed as owner's rate.

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As the pitch of the occupier's rates on the Chenáb Canal left a considerable margin of profit to the owners in Háfizabad the imposition of a *nahri parta* or fixed wet assessment was called for there, as it had been called for on the Bári Doáb Canal, and accordingly the Settlement Officer's proposals were accepted in the main.

With regard to this *nahri parta* the following remarks are important:—"The only practical difference, so far as Sir Dennis Fitzpatrick can see, between this *nahri parta* and an owner's rate is that it is a fixed assessment paid whether the land is irrigated in a particular year or not, and that being part and parcel of the land revenue proper it is not likely to be so readily shifted on from the landlord to a tenant, as an owner's rate which the people regard in precisely the same light as an occupier's rate." It is further remarked that a *nahri parta* should be fixed, since by making it fluctuating its essential character is destroyed, and it is reduced to something not very different from an owner's rate.

Inundation canals.

13. So far I have dealt with perennial canals. As the problems to be solved in the assessment of lands on inundation canals are much the same, it is unnecessary to deal with them at length. There are only two general matters which need to be separately noticed as being important on inundation canals and not on irrigation canals.

The first point is, that at one time it was urged by some that on these canals the occupier's rates should not be based on commercial principles but should be simply maintenance rates calculated to cover the cost to Government of the maintenance of the canals, or even only to cover half the cost of clearance. This theory has now been abandoned as will be seen from the papers referred to below.

The second point is that irrigation from inundation canals is more or less uncertain: hence a fixed assessment is not usually suitable. I will now show shortly how the assessment of lands on the inundation canals of Lahore, Montgomery and Dera Ghází Khan has been dealt with.

Appendix B to Volume of Irrigation Proceedings, P. W.D., for Jany.—June 1893.

Inundation Canals in Lahore.

14. *Upper Sutlej Canals, Lahore.*—Prior to the recent revision of the settlement of the Lahore District (1891) irrigation from the Lahore inundation canals was charged with (1) an all-round occupier's rate of 8 annas per acre, and (2) a "water-advantage" rate of 8 annas an acre on all *báráni* land except in the case of a rabi crop following an irrigated kharíf crop on the same land, when this charge was reduced to 4 annas an acre.

Punjab Government Irrigation Branch No. 936 of 26th February 1892.

In the discussion on the revision of rates contained in the papers referred to above Sir J. Lyall expressed himself as opposed to high occupier's rates on these canals. He said: "It must be borne in mind that many of the inundation canals in the Punjab date from before our time; and that in many of them the British Government has sunk but little capital although they irrigate large areas in comparatively rainless tracts which without such irrigation would speedily relapse into desert, and Sir J. Lyall is of opinion that, in the case of all these inundation canals, the principle on which the occupier's rate should be based is that this rate should be fully sufficient to cover the *working expenses* and that the *profit* should be looked for, not from these rates as in the case of perennial canals where they form the main source of revenue, but from a "canal-advantage land revenue rate." Sir J. Lyall took this view not on the ground of its being unfair or unjust to take more than a maintenance rate from the cultivators but on the ground that unless a high *revenue* rate were taken the Local Government would be starved in the matter of land revenue, local rates and village cesses in these tracts. He, therefore, supported low water-rates and a canal-advantage land revenue rate based on the average renting value of canal-irrigated as distinct from *báráni* land.

Eventually the rates fixed were as follows:—

(1). Fixed dry assessment 4 annas the acre.

(2). Fluctuating water-advantage land revenue rates 12 annas the acre.

(3). Occupier's rates at differential crop rates.

Rate (2) was to fluctuate on the area *irrigated* and was to be levied only once in the year, whereas the occupier's rates were, as usual, to be taken every harvest on the crop matured. The reason for making the water-advantage land revenue rate fluctuate on a different basis from the occupier's rates is given in paragraphs 28—29 of Financial Commissioner's Review of the Chúnián Assessment Report. He says: "Looking to the theory of the canal-advantage rate, *viz.*, that it is to be based on the average renting value of canal-irrigated as distinct from *báráni* land, the natural course to pursue would be to levy it on the total *irrigable* area. But the precariousness of the supply even in the kharíf seems to preclude this. Mr. Young therefore thinks that it should be levied on the area irrigated, but that it should be subject to remission in cases of failure."*

No. 32 I. of 7th February 1893.

The Government of India sanctioned the assessments given above but said they were unable to accept the correctness of the principle laid down by Sir J. Lyall that the occupier's rates need not be more than sufficient to cover the working expenses of the canals, including

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* I would note with regard to this decision that no doubt in principle and in theory the water-advantage land revenue rate should be based on the *irrigable* area, but if it were so based it would almost cease to be a fluctuating rate and would become a fixed rate undistinguishable from *nahri parta*. For this reason it is impossible to impose the rate on the *irrigable* area. This being the case, I see no strong reason for imposing it on the *irrigated* area instead of on the *cropped* area which is the basis for the assessment of water-rates. To do so merely introduces complexity. The only advantage gained is that by having this rate fluctuating on a different basis from the occupier's rates we make it a little less likely that the people will confound it with the occupier's rates and so a little more likely that it will be paid by the owner, as it should be, and not by the occupier.

Since writing this a fluctuating water-advantage rate, fluctuating on the matured area, has been proposed and sanctioned for the Mooltan Inundation Canals.

interest at 4 per cent. on the capital outlay. They added that the system advocated by Sir J. Lyall tended to the diversion of an undue proportion of the value of canal water to proprietors and consequently to the depreciation of the income derived by the State as a whole from canals.

Inundation canals in Montgomery.

15. *Upper Sutlej Canals in Montgomery.*—I do not propose to go in detail into the assessments imposed in Montgomery. The principles followed in Lahore were followed here, too, the only important difference being that as canal lands in Montgomery had no *báráni* aspect, no fixed dry assessment was imposed.

File $\frac{251}{176}$, printed.
Inundation canals in Dera Ghâzi Khan.

Page 16.

16. On the Dera Ghâzi Khan Inundation Canals at annexation the zamíndárs paid one-half share of the cost of clearance whatever it might be. Then later water-rates were imposed at rates calculated to meet the half cost of clearance. In 1870 Captain Sandeman, Deputy Commissioner, argued that Government was pledged not to impose water-rates higher than sufficient to meet the half cost of clearance. He based his opinion on the fact of the zamíndárs having excavated the canals, and on alleged promises by Government that no more than half clearance rates should be taken.

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Government in 1873 refused to accept this view and agreed with the Financial Commissioner that they had a free hand to impose true water-rates. The true position of Government is clearly given in a note of Mr. Mackworth Young's of 27th September 1892. He there says: "It is not clear owing to the correspondence of 1857 not having been traced, why the payments on account of clearance, which, as above remarked, nearly, if not quite, amounted under the Sikh Government to the whole cost of clearance, were limited to half the cost, or why it was decided that no water-rate should be charged. But the theory of this charge was fully discussed subsequently in the correspondence ending with Punjab Government No. 668, dated 19th October 1870. In this letter it was ruled that the fact of the canals of the Dera Ghâzi Khan District having been dug by the people is no sufficient ground for the inference......that the canals are the property of the zamíndárs. So far as His Honor is aware the lands in which the canals were excavated, were waste lands, the property of the State, so that assuming that the canals were constructed by means of the labour and capital of the zamíndárs, they are simply in the position of tenants who have improved a landlord's demesne; they are equitably entitled to be repaid for the labour and capital expended by them by the grant of favourable rates of revenue for a given period, but to nothing more."

Proceedings Revenue (Irrigation) of December 1895, Nos. 19-30.
Page 192 of $\frac{251}{176}$ (not printed).
Pages 201-02.

Similarly in paragraph 26 of his No. 83 of 10th November 1894, Mr. Diack, and in his Note of 4th June 1895, Mr. Young, show that Government is entitled to take a full water-rate. High rates are taken in Mooltan and Muzaffargarh.

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The views of Government which agreed with those of Mr. Young will be found in Punjab Government No. 139 of 19th December 1895. Lower water-rates were sanctioned for Dera Ghâzi Khan but not because Government was not entitled to take high ones if it chose.

The land revenue assessment imposed on the canal lands of Dera Ghâzi Khan is partly fixed and partly fluctuating. There is a low fixed dry rate, and also a canal-advantage land revenue rate, usually of 10 annas per acre, assessed on crops matured with the aid of canal irrigation. The system is thus generally the same as the Lahore system, except that the water-advantage land revenue rate fluctuates on *matured* crops and not on irrigated crops.

Conclusions.

17. The above note and the quotations given in it refer, I think, to all the main questions connected with the assessment of canal-irrigated land. There are of course many minor questions such as *âbzai* and the *watering of fallows* which are outside discussion in a note on general principles.

The conclusions arrived at in the past discussion of the subject appear to be as follows:—

(*a*). Water-rates (occupier's rates) on irrigation and inundation canals represent the commercial price of water supplied to the cultivator and are not maintenance rates.

(*b*). Occupier's rates should not be pitched so high as to prevent the owners getting any profit from irrigation.

(*c*). The question of the loss of cesses need not be taken into account when it is proposed to substitute high occupier's rates for owner's rates or for land revenue in the shape of *nahri parta* or water-advantage land revenue

rate as the Government of India will make the necessary distribution of income between the different departments. Only the total sum to be taken need be considered.

Vide para. 5 of P. G. letter No. 139 of 19th December 1895 and para. 4 of G. of I. letter No. 32 I. of 7th February 1893.

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(*d*). Owner's rate is, or will sooner or later be, always paid by the occupier. It is therefore an inefficient means for tapping the owner's profits. The only occasion on which it should be imposed is when during the currency of settlement it is desired to impose a tax on the owner. It will in such cases probably serve its purpose for a short time.

(*e*). Non-disturbance of existing relations between owners and tenants is an important consideration in arranging for the assessment of canal rates.

(*f*). On a new canal the ideal assessment is a single set of occupier's rates pitched so high as to leave only a little profit to the owner.

(*g*). On old canals where for practical reasons (*e. g.*, non-disturbance of the relations between owner and tenant) it is not advisable to impose full occupier's rates a *nahri parta* is the best form of assessment to impose on owners as—(*i*) it can be varied from village to village and in accordance with the quality of the land and the means of irrigation; (*ii*) it is less likely to be passed down by the owner on to the tenant than an owner's rate or a fluctuating water-advantage rate as it is *bachhed* with the ordinary land revenue and regarded as such.

(*h*). If the amendment of the Canal Act now under consideration (*vide* Proceedings, Rev.—Irr., August 1898, Nos. 16-24, and November 1898, Nos. 6-8, and January 1899, Nos. 26-28) with a view to making the occupier's rates leviable from the owner in case of the default of the occupier becomes law, there will be no danger or technical difficulty in making the occupier liable for the whole of the canal charges.

File $\frac{231}{19}$.

APPENDIX B.

Note on the systems of assessment in use on State Perennial Canals.

1. SWAT RIVER CANAL—

(*a*).—Opened on 12th February 1885.

(*b*).—Average area irrigated in five years 1893-94 to 1897-98—

	Acres.
Kharíf	36,655
Rabi	72,458

	Rs.
(*c*).—Average occupier's rates assessed in five years 1893-94 to 1897-98	2,94,528
(*d*).—Average land revenue credited to Canal Department since settlement	50,440

This canal irrigates land in the Nowshera, Mardán and Chársadda Tahsils of the Pesháwar District. Occupier's rates are levied at the following rates:—

	Rs.	*a.*	*p.*
Rice	6	0	0
Rabi crops	3	0	0
Kharíf crops except rice	2	8	0

Half rates for lift. The land revenue assessment is 12 annas fixed, including dry assessment and *nahri parta,* revisible quadrennially. The Canal Department gets a book-credit of 6 annas *nahri parta.*

2. WESTERN JUMNA CANAL—

(1). Existed prior to annexation.

(2). Average area irrigated in five years 1893-94 to 1897-98—

	Acres.
Kharíf	280,979
Rabi	295,838

	Rs.
(3). Average occupier's rates assessed in five years 1893-94 to 1897-98	13,64,474
(4). Average owner's rates assessed	5,97,210

This canal irrigates land in the Hissár, Karnál, Rohtak, Delhi and, to a small extent, Umballa Districts. Occupier's rates are differentiated in seven classes, varying from Rs. 5-10-0 for sugarcane to Re. 1-2-0 for a single watering before the rabi ploughings. Lift rates are two-thirds of flow rates. Owner's rates are levied at one-half of the occupier's rates except in Sirsa where there are no owner's rates. The land revenue is assessed at dry rates, or at something very little above dry rates.

3. BARI DOAB CANAL—

(1). Irrigation began in 1860-61.

(2). Average area irrigated in five years 1893-94 to 1897-98—

	Acres.
Kharíf	283,792
Rabi	370,855

	Rs.
(3). Average occupier's rates assessed in five years 1893-94 to 1897-98	23,33,751
(4). Average land revenue credited to Canal Department ...	1,84,142

The canal irrigates land in the Gurdáspur, Amritsar and Lahore Districts. Occupier's rates are differentiated in seven classes from Rs. 7-1-0 for sugarcane to Re. 1-0- for a single watering before ploughing. Half rates for lift. In Gurdáspur canal land

are assessed at the highest *baráni* rate for the circle or at something above it, but the whole is treated as dry land revenue. In Lahore and Amritsar canal lands are assessed at dry rates, plus a *nahri parta* which varies from 4 annas to 12 annas the acre. The *nahri parta* can be assessed on lands to which irrigation is extended and taken off lands deprived of irrigation. Except in Batála Tahsil the Canal Department gets a book-credit of the amounts assessed as *nahri partá*. The amounts to be credited annually were fixed at settlement, but are subject to revision owing to alteration in the amount of *nahri parta* from suspensions, remissions, and other causes.

4. SIRHIND CANAL—

(1). Irrigation began in 1883-84.

(2). Average area irrigated on British Branches in five years, 1893-94 to 1897-98—

	Acres.
Kharíf	179,516
Rabi	423,224

(3). Average occupier's rates assessed in five years, 1893-94 to 1897-98 ... ... Rs. 20,03,648

The canal irrigates lands in Ludhiána, Ferozepore and Hissár in British territory. Occupier's rates are differentiated in six classes from Rs. 7-8-0 for sugarcane, &c., to 12 annas for a single watering before ploughing. Lift rates are two-thirds of flow rates. Land revenue is assessed at dry rates. There are no owner's rates.

5. CHENAB CANAL—

(1). Opened as a perennial canal from Kharíf 1892.

(2). Area irrigated has increased with the extensions of the canal :—

	Acres.
Area of 1897-98 Kharíf	324,861
Area of 1897-98 Rabi	485,139

	Rs.
(3). Occupier's rates, 1897-98	23,59,151
(4). Owner's rates	20,327
(5). Nahri parta	20,272
(6). Land revenue	2,17,068

The canal irrigates land in the Jhang and Gujránwála districts. Occupier's rates in estates in existence before the Chenáb Colony was started (="old" villages) are differentiated in six classes from Rs. 8 for sugarcane, &c., to Re. 1-12-0 for a single watering before ploughing. Lift rates something over half flow rates. In colony villages occupier's rates are 8 annas lower all round, and lift rates are half flow rates. "Old" villages in Gujránwála are assessed at fixed wet rates (same as *cháhi* rates), including *nahri parta* varying from 9 annas to 5 annas. The *nahri parta* can under conditions be assessed on lands to which irrigation is extended. Canal Department gets a book-credit of the *nahri parta*. "Old" villages in Jhang are subject to a fluctuating rate of Re. 1 per acre of matured crops, of which 8 annas is *nahri parta*. The Canal Department will get a credit of this. In colony villages the land revenue is 8 annas per acre of cultivation, and there is also an owner's rate of one rupee per acre irrigated, which is remitted for ten years.

(Correspondence is at present going on).

6. KABUL RIVER CANAL—

(1). Opened in its present form in 1892.

(2). Area irrigated—

	Acres.
1896-97	27,030
1897-98	28,230

(3). Occupier's rates—

	Rs.
Rabi 1897	53,951
Kharíf 1897	54,977

The canal irrigates land in the Pesháwar and Nowshera Tahsils of the Pesháwar district. Occupier's rates differentiated by circles and varying from Rs. 8 to Rs. 2-8-0 on matured crops have been imposed from Rabi 1897. Lift rates are one-half of flow rates. "The land revenue of the area irrigated has been assessed with regard to what the land may be expected to pay without the use of canal water and without regular resort to the old sources from which much of the area in the Pesháwar Tahsil was formerly irrigated."

Settlement Report, paragraph 11.

APPENDIX C.

Note on the systems of assessment in use on the chief Inundation and Private Canals.

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1. SIDHNAI CANAL*—

(1). Opened on 27th May 1886.

(2). Average area irrigated by Sidhnai Proper in three years, 1895-96 to 1897-98:—

	Acres.
Kharíf	90,531
Rabi	59,998

(3). Average assessments of consolidated rates in past three years :—

	Rs.
Kharíf	2,23,352
Rabi	86,460

1. All kharíf crops—

	Rs.	a.	p.
Flow ...	2	8	0
Lift ...	1	9	0

2. All rabi crops—

Flow ...	2	4	0
Lift ...	1	6	6

3. Crops irrigated partly by canal, partly by well water—

	Rs.	a.	p.
Flow ...	1	12	0
Lift ...	1	1	6

The canal irrigates land in the Mooltan and Kabírwála Tahsils of the Mooltan district. Consolidated rates, including water-rates and land revenue at the rates shown in the margin are assessed on crops cultivated, but allowances are made for *kharába.* The whole of the kharíf assessments are credited direct to the Canal Department but one-third of the rabi rates are credited to land revenue. The Canal Department also gets certain indirect credits, *vide* P. G. letter No. 0861 A. I. of 16th October 1895.

The re-assessment of the Sidhnai lands is now under consideration.†

2. LOWER SOHAG AND PARA CANAL—

(1). Opened in October 1884.

(2). Average area irrigated during five years, 1893-94 to 1897-98.

	Acres.
Kharíf	37,066
Rabi	38,705

	Rs.
(3). Average occupier's rates for five years 1893-94 to 1897-98...	96,422

The canal irrigates land in the Dipálpur and Pákpattan Tahsils of the Montgomery district, and in the Sohág Pára Colony. Occupier's rates are differentiated into five classes from Rs. 3-4-0 for rice, &c., to 8 annas for failed rabi crops. Lift rates are half of flow rates. The area watered and sown is assessed to water-advantage land revenue at rates varying from 7 annas per acre to Re. 1 per acre. This rate is only levied once on *dofasli* land. The Canal Department gets a book-credit.

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* Treated here as an inundation canal for reasons stated in foot-note to para. 14 of my Note.

S. S. T.

† The following assessments have been sanctioned for the Sidhnai Canal lands since Mr. Thorburn's Note was submitted to Government.

The consolidated crop rates given below will be charged on canal irrigated crops subject to allowances for *khádraba.*

	Rs.	a.	p.	
I.—Rice, fruits and vegetables, pepper, cotton, sugar, til and wheat	3	5	0	per acre.
II.—Other kharíf crops	2	6	0	,,
III.—Other rabi crops	2	2	0	,,

Lift irrigation will be assessed at half-rates. On new wells rabi *chahi-nahri* crops will be assessed at the following favourable rates—

	Rs.	a.	p.
Wheat, fruits, vegetables and tobacco	2	0	0
Other crops	1	0	0

Cesses are chargeable on the whole consolidated-rate

W. S. H.

3. UPPER SUTLEJ INUNDATION CANALS—

(1). Constructed before annexation.

(2). Average area irrigated in the five years 1893-94 to 1897-98 :—

	Acres.
Kharíf	86,402
Rabi	85,479
	Rs.
(3). Occupier's-rates for 1897-98 were	1,10,836
(4). Average water-advantage rate in Lahore	29,120
(5). Water-advantage rate in Montgomery in 1897-98	36,599

The canals irrigate land in the Kasúr and Chunián Tahsils of the Lahore district and the Dipálpur and Pákpattan Tahsils of the Montgomery district. The occupier's rates in Lahore vary from Rs. 2-4-0 on rice, &c., to 8 annas on rabi crops, &c., and in Montgomery from Rs. 3-4-0 on rice, &c., to 8 annas on failed rabi crops. In both cases lift rates are half flow rates.

In Lahore a water-advantage rate of 12 annas is levied on kharíf and rabi waterings, but not on both in one year. In Montgomery a water-advantage land revenue rate varying from 7 annas to 14 annas is levied on the area watered and sown, but only once in the year. The Canal Department gets a book-credit for the fluctuating land revenue. Canal lands are also assessed with fixed dry rates of 4 annas in Chunián and 8 annas in Kasúr : there are no fixed rates in Montgomery.

4. LOWER SUTLEJ AND CHENAB CANALS (MOOLTAN INUNDATION CANALS)—

(1). Most of these canals were constructed previous to annexation.

(2). Average area matured in five years 1893-94 to 1897-98—

	Acres.
Kharíf	147,686
Rabi	177,873

On these canals—excluding the Hajiwah which is peculiar—up to the present time there have been no occupier's rates, but clearance has been effected by *chher* labour. The land revenue was assessed at wet rates (usually about Re. 1 per acre), part of which was remissible if canal water was not received. The Canal Department got a book-credit of all revenue distributed on canal lands and of two-thirds of the revenue on canal and well lands.

	Rate per acre. Flow.
	Rs. a. p.
Class I	2 0 0
" II	1 8 0
" III	1 4 0
" IV	0 14 0

In future the *chher* system will be abolished,—gradually or summarily—and water* (occupier's) rates imposed on the scale shown in the margin. A fluctuating water-advantage rate of about Rs. 1-4-0 will be assessed on crops matured with canal water. This rate will be reduced by one quarter when the irrigation is by lift. Canal Department will get a book-credit of the amount of the water-advantage rate.

5. INDUS INUNDATION CANALS (DERA GHAZI KHAN)—

(1). Most of the canals were in existence at the time of annexation.

(2). Average area irrigated in five years 1893-94 to 1897-98—

	Acres.
Kharíf	112,283
Rabi	58,837
	Rs.
(3). Occupier's rates, 1897-98	1,30,696
(4). Estimated receipts from water-advantage rate	1,02,830

These canals irrigate lands in the Dera Ghází Khan district. A new system of assessment was introduced at the recent settlement as follows. Very low occupier's rates

* The rates actually sanctioned are :—

	Rs. a. p.
Class I	2 4 0
" II	1 12 0
" III	1 8 0
" IV	0 14 0

W. S. H.

varying for kharíf flow from 6 annas to Re. 1 with rabi rates one-half of kharif rates and lift rates usually one-half of flow rates have been fixed for the different canals. Except in the Sanghar Tahsil a low fixed assessment varying from 1 anna 4 pies to 4 annas 4 pies has been imposed on canal lands. In addition all crops matured with canal water pay a fluctuating water-advantage rate varying from 8 annas to Re. 1, a second crop on the same land paying at lower rates. The Canal Department gets a credit of the whole of the fluctuating assessment and of certain large fixed items of fixed land revenue, amounting to Rs. 1,51,935.

6. SHAHPUR (IMPERIAL AND PROVINCIAL) INUNDATION CANALS—

(1). Constructed at various times.

(2). These canals irrigated the following areas in 1897-98 :—

			Acres.
Imperial	Kharìf	... ...	16,547
	Rabi	... ...	22,275
Provincial	Kharíf	... ...	16,373
	Rabi	... ...	7,732

(3). Occupier's rates were assessed in 1897-98— *Rs.*

On Imperial Canals at 93,626

On Provincial Canals at... 48,739

(4). Water-advantage rate was assessed in 1897-98— *Rs.*

On Imperial Canals at... 18,629

On Provincial Canals at 9,691

	Flow. Rs. a. p.	*Lift.* Rs. a. p.
Rice	3 8 0	1 4 0
All other crops	2 8 0	1 4 0
Grass land ...	1 4 0	1 4 0

Occupier's rates are levied on the area irrigated at rates shown in the margin except on the Corbynwah Canal, where the rates are lower. Remissions are allowed on *kharába*. Land revenue is assessed on canal lands at dry rates varying from 4 annas to 8 annas the acre; and in addition a fluctuating rate of 8 annas per acre on the Jhelum Canals and 4 annas the acre on Chenáb Canals is levied on irrigated lands once in the year, being reduced in proportion to the remissions of occupier's rates. The Canal Department gets a book-credit of the fluctuating rate.

7. MUZAFFARGARH INUNDATION CANALS—

(1). Made before annexation. Transferred to the Irrigation Department in 1880.

(2). Average area irrigated in five years 1893-94 to 1897-98—

		Acres.
Kharíf...	... ...	123,662
Rabi ...	... ...	174,737

(3). Average land revenue fixed and fluctuating credited to the Irrigation Department Rs. 2,58,169.

These canals take off from the Indus and from the Chenáb.

Clearance is done by *chher* labour ; there are no occupier's rates.

Land revenue is assessed at wet rates of from 15 to 20 annas the acre, remissible (under conditions) on failure of canal water. The Canal Department gets a book-credit of the whole of the revenue assessed on *nahri* lands and two-thirds of the revenue on *cháhi-nahri* lands. The system of assessment will be revised in the present settlement of the Muzaffargarh district.

8. FEROZEPORE INUNDATION CANALS (PRIVATE)—

(1). Opened in 1874-77.

(2). Average area irrigated in the five years 1893 to 1897 is—113,008 acres.

(3). Average fluctuating land revenue credited to Government in the five years 1893 to 1897 ... ... about Rs. 31,000

No occupier's rates are charged. The cost of establishment and the expenditure on silt clearance is *báchhed* yearly on the irrigators, and fell in 1897-98, the former at the rate of 4 annas and the latter at rates of from 8 annas to 12 annas the *ghumao* on different canals. Fluctuating land revenue is charged on crops actually irrigated at 14·52 annas per acre on superior kharíf crops and 7·26 annas on other crops. The canals are managed by the Deputy Commissioner.

9. SHAH NAHR CANAL—(HOSHIARPUR DISTRICT) PRIVATE—

(1). Opened in Mughal times.

(2). Average area irrigated, 1893-94 to 1897-98 ... ... Acres 8,614

(3). Government share of the income (average) ... ... Rs. 16,540

Occupier's rates are paid according to a scale fixed from time to time by the Local Government, but are not to exceed Re. 1-6-0 per *ghumao* (=·759 of an acre) in the case of shareholders in the canal. The rate is charged on all lands whether irrigated in one or both harvests. The present rate is Re. 1-2-0 per *ghumao*. Owner's rate is charged at the rate of Re. 1-2-0 per *ghumao* (=Re. 1-8-0 per acre) on all lands irrigated, but is not charged on a spring crop immediately following an autumn crop. Land revenue is assessed at dry rates. The canal is managed by the Deputy Commissioner. Of the occupier's rates 8 annas per *ghumao* are paid to the shareholders, 2 annas per *ghumao* to the manager (a zaildár), and the balance to Government. The owner's rate is credited to Government.

10. PRIVATE CANALS IN THE SHAHPUR DISTRICT—

(1). Constructed at various dates subsequent to 1860.

(2). Approximate area irrigated, 44,500 acres.

There are no occupier's or owner's rates. The fixed land revenue is assessed at dry rates. A water-advantage rate of 8 annas per acre irrigated (on the Chenáb Canals 4 annas) is assessed from year to year. Four annas per acre actually irrigated is taken as royalty from the owners of private canals from the Jhelum, and 2 annas per acre on the inferior canals from the Chenáb. This rate is charged on all land actually irrigated by whomsoever owned. It is remitted for failure of crops in the same way as water-advantage rate.

11. PRIVATE CANALS, PESHAWAR—

(1). Made prior to annexation.

(2). The total area irrigated is put by the Settlement Officer at 129,893 acres.

(3). The revenue assessed on lands watered by these canals is Rs. 5,77,805.

Clearance is effected by *chher* labour, and there are no occupier's or owner's rates. The land revenue is assessed at wet rates varying from Rs. 2-12-0 to Rs. 5 the acre. No royalty is charged.

APPENDIX D.

ROUGH NOTES ON

(I).—*Adjustment of assessment-rates on canals to varying conditions governing powers of production in each block, mauza or square.*

(II).—*An automatic sliding scale for commutation prices on canals.*

As to I—

1. In the Sandal Bár and elsewhere on lands irrigable from the Chenáb Canal, and presumably on other canals as well, situation *quâ* water-supply, natural soil variations, evenness or unevenness of surface, the level or slope of the ground, &c., &c., are so great that with the same labour and expenditure some blocks will be far more productive than others. Local experts of the Chenáb Canal told me that some capitalist grantees cleared annually as net profits only Rs. 50, whilst others made Rs. 100 to Rs. 150 per square. Instances were given and registered lease-deeds referred to. If such is the case with absentee capitalists it must be much the same with yeomen and peasant grantees. It seems to me the luck of location should be corrected in our future assessments, if possible.

These conditions may become somewhat ameliorated in time, but some will always be present, *e.g.*, that of quality of soil, as the Chenáb does not deposit rich silt and will hardly improve the natural soil beyond gradually washing out salts.

2. It seems to follow that, if possible, adjustment should be obtained by assessing canal and land revenue in such a way as to obtain some approach to proportion between produce and demand.

No attempt has, I think, been yet made towards securing a measure of such adjustment on the Chenáb Canal except in so far as it may be approached by the differentiation in crop-rates under the occupier's rating,—*i.e.*, the ratio of superior to inferior crops grown on best land will be higher than it is on worst lands.

This, however, does not go far as crops in classes I, II, III—cane, rice, *zabti*, &c.,—are not extensive, and all lands produce those in classes IV and V,—*i.e.*, IV—cotton, maize, oilseeds, wheat, barley, and V—kharif crops (except maize), plus gram, *masúr*.

3. As far as I know except in the above way—which to some extent only takes cognizance of the one factor—the quantity of water applied—identical rates are charged on all *nahri* cultivation. We have—confining remarks to Chenáb Canal—

(*i*). *Water-rates.*—(*a*) Occupier's as above differentiated on crops.

(*b*) Owner's rates of Re. 1 per acre cultivated (remitted for ten years).

(*ii*). *Land revenue.*—Annas 8 per acre of cultivation, also *málikána* and cesses.

Thus practically a uniform assessment is imposed, and the factors which make one block of land two or even three times as productive and consequently as valuable as another are not taken into account.

Obviously, then, the system of assessment requires correction, if a means of practical adjustment can be found.

4. In assessing land revenue, a Settlement Officer fixes circle or average rates, lists his villages from best to worst either in individual relative order of merit or in classes. In assessing, he adjusts the burden to the particular productiveness of each village going 50 per cent. or more above or below his circle rates. Some such elasticity is wanted for the Chenáb Canal as soon as present contracts expire, indeed for all canals I should think.

How are we to secure it? We cannot, perhaps, easily improve upon the occupier's rates system, so only the owner's rate and land-revenue rate are left. Possibly adjustment can best be obtained out of them if we leave the aggregate assessment as it is, divide the *nahri* lands under each *rájbaha* into classes, with one square as the lowest unit of block, and *báchh* the circle or canal owner's and land-revenue rates with full regard to each unit's productive powers, *i.e.*, distribute with the same freedom above or below the general sanctioned rates as the Settlement Officer does when assessing land-revenue on the villages in a circle.

There may be other simpler ways, but I think some adjustment is a necessity.

5. It seems to me the general question may be put as follows :—

In explanation of the present system on the Chenáb Canal and wherever else it applies, Government may say we already do differentiate, seeing that—

(a) crop differentiation is a practical differentiation, because the best and highest assessed crops are grown on the best soils, the worst and lowest rated on the poorest lands;

(b) we grant *kharába* fully;

(c) the land revenue itself is so small a part of the total assessment that it is hardly worth while to differentiate on it, while as to the water-rates they represent the price of water sold on business principles.

The holders of poor *nahri* lands might answer as follows :—

(a). "Yes, but we *must* grow wheat and cotton, &c., &c., though our soil is inferior. Then why should a soil that yeilds ten maunds an acre pay the same as a soil that only yields six?

(b). "*Kharába* is all very well, but it only applies to failures. We want differentiation because of the difference in the actual yields on different squares, and not as a concession when crops fail, for that we have a right to in any case.

(c). "Quite so, but the remedy is easy, for you can increase your land-revenue and reduce your water-rates. You do not sell water except as a producing agent, therefore its value is relative not absolute, and in practice you measure the price not by the quantity of water applied, but by your estimate of the value of the crop producible on average squares."

6. As to (II) a sliding scale for assumed prices which can be worked in famine and plethora seasons automatically. For land and canal-revenue assessment purposes we estimate gross produce and cost of production and take part of the balance. We might take our share of this balance in kind, but prefer to take it in cash. This is done by converting kind into cash at very easy commutation rates—for wheat usually now 25 to 27 *sérs* a rupee. Were prices reasonably constant, the account would be pretty fair for Government as well as for assessees. But the rainfall is very uncertain and prices fluctuate greatly from year to year. In fixing our assumed prices our caution or generosity usually induces us to fix them well below actuals in nine years out of ten. Thus by commutation the assessee gains and Government loses. We are rightly tender for owners of *báráni* and *cháhi* land, as such men have no or small assets other than the produce of each harvest, which is as uncertain in yield as is the rainfall. Further, in short years, notwithstanding fixity of assessment, we now grant suspensions freely to be followed by remissions when wanted.

7. Conditions on canal lands differ. On them the water-rates are fully fluctuating and yields are certain, hence the greater the shortage in *báráni* and *cháhi* tracts, the greater the profits to canal assessees. Thus for 1896-97 we suspended some 25 lakhs on *báráni* and *cháhi* lands under fixed assessments, but realised the usual demand from *náhri* lands, though as prices ruled at famine rates and *nahri* lands yielded their regular outturn, the *nahri* assessees *more than doubled their profits.*

8. Now, we profess to administer our canals on business principles, modified to meet considerations of good policy, but it is not business in dear years to suspend and remit largely for those who suffer from their crops failing and take nothing extra from those who gain through the constancy of yield and the doubling of normal prices of produce. Business principles require us to approximate commutation rates for *nahri* lands to actual prices in years of bad rainfall, so that by enhanced recoveries on *nahri* lands we may recoup our losses caused by suspensions and remissions on *báráni* and *cháhi* lands. If we adopt on canals the principle of fixing commutation prices and assessments by a simple sliding scale we should proportion demand to profits and compensate ourselves for our losses through the surrender of revenue by increased realisations from canals. It would be only necessary to take few governing staples, say wheat for rabi and cotton for kharif and fix price-commutation rates for them.

9. Let us take, for instance, wheat, the assumed price of which ranges from 25 to 27 *sérs*. That would be the guide in all but scarcity or plethora seasons. The former might be held to be seasons when the retail price of wheat, viewed provincially, is dearer than 14 *sérs* and the latter when it is cheaper than 30 *sérs* the rupee. In the former case the demand might well be raised by 8 annas and in the latter lowered by 4 annas in the rupee.

Taking a provincial cycle as sixteen years in thirteen there would be no alteration in the demand as the "normal" range allowed for (14 to 30 *sérs*) is very wide, in two there would be scarcity seasons and in at most one there would be plethora period.

Thus in exceptional times we should obtain automatically a fair adjustment of demand to profits, and such times would no longer cause Government enormous losses and canal assessees enormous profits but both would receive equitable treatment.

10. These rough notes on the two important questions of principle touched on are put forward in order to elicit opinions. I write with diffidence, as my experience in canal

assessments is small. The same ideas must have occurred to many Revenue and Canal Officers and may have been mooted, discussed, and rejected before. If so, I should like to know (*i*) is appreciable, or indeed any differentiation in land revenue applied in the case of any canals? and (*ii*) have any proposals been made for such differentiation on the Sidhnái?

11. Of course no changes on the Chenáb or other canals could be introduced until current assessments come under revision.

If opinions show that the principles put forward appear sound the cases will be dealt with officially and thoroughly, and formal proposals will be put before Government for consideration.

S. S. THORBURN,
Financial Commissioner, Punjab.

Camp, 29th November 1898.

APPENDIX E.

Précis of replies to Appendix D.

(*a*).—REPLIES TO QUESTION I.

Mr. Cunningham.

Agrees that the aggregate assessment on each circle might be fixed and then distributed over the units above or below the sanctioned rates as a Settlement Officer does in assessing estates in one circle.

Mr. Alexander Anderson.

Assessing officers could not *assess* by squares, but there is no reason why the people* should not be allowed to go as much above or below village rates in the *báchh* as they like.

* The "people" cannot distribute fairly except where the village community still exists, and it does not exist wherever rich outsiders hold largely. The Settlement Officer must always be responsible for a fair *báchh*.

S. S. T.

Mr. Fanshawe.

We have not establishment sufficiently trained to carry out the system proposed.* Doubts whether when lands have been fully cultivated there are general inequalities in different blocks† of land. Proposed system will involve much work and excite opposition. In new colonies, would be opposed to our efforts to create *estates*.

* This was I think true ten or more years ago, but is not so now.

S. S. T.

† Depends on size of "block."

S. S. T.

Colonel Hutchinson.

Approves of the principle, and thinks there would be no difficulty in carrying it out.

Colonel Montgomery.

Adjustment of assessment rates on canals to the varying conditions of production in different blocks would be very difficult where revenue and owner's rates are fluctuating. *Kharába* system gives much relief. No change is needed on the Chenáb.

Mr. J. Wilson.

In 1882, when as Settlement Officer, Sirsa, discussing the mode of assessment for water taken from the Sirhind Canal, he assumed that each village would first be assessed to land-revenue without reference to the canal, and that those villages which agreed to take water would be assessed* to occupier's and owner's rates as follows:—

*Mr. Wilson would thus vary the aggregate demand for canal-rates from each village according to its position, &c., &c., and the lump rating would be distributed inside the village very much as land revenue might. The canal assessment would be revised at short intervals of time until conditions become fixed. His proposal thus takes into account far finer distribution of soil and situation than mine does. I understand he still retains the views he put forward 17 years ago.

S. S. T.

"The fairest plan would be to charge each "village at separate rates calculated according "to the varying degree of benefit it derived from "its position; the villages least favourably situ-"ated being charged no owner's rate assessment "at all. Or an assessment of the benefits derived "from position might be made and revised from "time to time as proposed by Mr. Lyall.

"But there would be some difficulty in distri-"buting this demand, and these expedients are "at the best evasions and complications, and it "is much simpler and better to charge one price "for the water assessed at rates fixed for each "village according to its position. It would be "just as easy to make a village-to-village assess-"ment of canal-rates as it is to make a land "revenue assessment by villages. Indeed it

"would be easier, after some experience had been "gained * * * * *. Briefly then I would "fix the maximum area to be irrigated in each "village annually; would supply the necessary "volume of water to the villages as a body; and "would leave them to distribute it over the land "as they thought best recording the arrange- "ment to which they came among themselves. "I would, to begin with, have the same rates "throughout the canal and pitch them low in "order to develop irrigation rapidly, but would "give the people clearly to understand that after "three years an assessment would be made and "separate rates fixed for each village according "to its position and advantages with reference to "canal-irrigation. This assessment, I would re- "vise five years after and announce for ten years; "at the next revision the rate would be fixed for "the remainder of the term of settlement and "would thereafter be revised along with each re- "vision of land revenue assessment. The Canal "Officer would measure up each harvest the "area irrigated, apply the village rates and "announce the total demand for the village as "one sum. This would be distributed among "themselves by the villagers under the direction "of the Revenue authorities and realized accordingly." (*Vide* page 501 of Financial Commissioner's Selection No. LXII).

Mr. Merk.

Agrees that assessment should be adjusted to the relative productivity of the area assessed and its other advantages. This should be done by going above or below sanctioned rates.

Mr. White-King.

Agrees in the proposals, but says that the unit of assessment should not be so small as a square.*

Mr. Younghusband.

The remedy is to reduce your water-rates, increase the revenue-rates and assess the revenue as you would in any other part of the district, *i.e.*, by a careful *báchh* according to the advantages of the land.*

Mr. Maclagan.

Where irrigation from canals is largely assisted by wells* would differentiate by means of a fixed assessment on the wells.

Where irrigation is not much assisted by wells differentiation by small† units would be troublesome in practice, ineffective owing to the varying facilities for irrigation, and unpopular. The right thing to do is to develop the *kharába* system.‡

Mr. Fagan.

Variation in the fluctuating rates of assessment from estate to estate or from holding to holding would introduce much confusion. On perennial canals a *nahri parta* varied in the village assessments from estate to estate and from holding to holding is what is needed.*

Captain P. Young.

There is much difference between village and village in the Chenáb Colony. *Kharába* remissions do not compensate for the difference. Soil is, however, improving in inferior villages.

Agrees with Financial Commissioner.

* Quite so. May be the *mauza* or a group of *mauzás*. All depends on facts.

S. S. T.

* This is very much my view.

S. S. T.

* Refers chiefly to inundation canals in which he has experience.

S. S. T.

† Yes, but I propose large to considerable units, zones with a hundred or more villages, single villages and possibly, though not probably, a square or several squares.

S. S. T.

‡ In any case we should do this.

S. S. T.

* Yes, but the *nahri-parta* must be raised and water-rates lowered to produce the desired adjustment.

S. S. T.

Mr. J. Beresford.

Refers to papers with Punjab Government endorsement No. 94, dated 17th May 1899.

The questions discussed in the papers to which Mr. Beresford has referred only bear incidentally on that under consideration in paragraph 15 *et seq.* of my note.

The questions in those papers concern—

(1) difference in cost between lift and flush irrigation;

(2) separation of lands which can pay higher rates from those which can only pay lower;

(3) relative value of canal-water to different crops.

The difficulties in classifying soils are stated to be very great, but the ideal unit taken, the field, is a far finer unit than I propose to take. On the whole these papers afford little elucidation for my purposes.

S. S. T.

(*b*).—REPLIES TO QUESTION II.

Mr. Cunningham.

Failure of rain is only one of many causes that raise prices. Owners of *báráni* lands may benefit from a rise of prices as much as owners of canal lands, and why should the latter be differently treated? *

* In famine years *baráni* lands generally produce little south of the Grand Trunk Road. In such years all *nahri* lands produce their normal amounts, and owners sell at double or more above normal prices.

S. S. T.

Mr. Alex. Anderson.

Nothing in theory to object to in an automatic commutation scale of prices, but it would not work in practice. A settlement should be a settlement and not liable to frequent* changes. The system would be very unpopular.

* If so, what about fluctuating systems now being largely introduced? My proposal is intended as a condition of the settlement.

S. S. T.

Mr. Fanshawe.

Doubts whether prices really vary much now in tracts opened out by railways.* Opposition is to be expected. The plan proposed should certainly not be tried.

* That is hardly the question. Prices vary in every part of the Province by 200 per cent. or more between normal and famine times and in latter there is nearly a dead level in all areas. Canal lands then produce fully but other lands little or nothing.

S. S. T.

Colonel Hutchinson.

Approves of the principle, but thinks it would be difficult to decide when to raise or lower rates.

Colonel Montgomery.

Does not advocate the introduction of an automatic sliding scale for commutation prices. Objects to the extension of fluctuating assessment systems where not absolutely necessary in the interests of the revenue-payers.

Mr. Merk.

High prices not always the result of scarcity. If canal-irrigated lands are to be assessed higher in dry years why should not *báráni* lands be assessed higher in wet years? * Fixity of demand spreading over a term of good and bad years is an excellent principle of business. This is the only way in which to create a class of yeoman farmers on the great canals. An automatic sliding scale has in it an element of rack-renting.

* See note to Mr. Cunningham's II, above.

S. S. T.

Mr. White-King.

Sliding scale would be unpopular and advantage gained not commensurate with the trouble. The years in which scarcity would prevail are too few to make it worth while having a sliding scale.*

* This is a sound criticism, but reply is that in such years Government loses enormously on *báráni*, and even well lands, and owners of *nahri* lands gain enormously.

S. S. T.

Mr. Younghusband.

Sliding scale would come into operation so seldom that it is not worth introducing.

Mr. Maclagan.

Sliding scale for assessments reasonable in theory, but there are practical objections, which are not however insuperable.

Mr. Fagan.

The proposed system could only be introduced in large estates where a good year leaves a balance of profit.

Captain P. Young.

General principles enunciated are indisputable. But in plethora years, when *báráni* lands yield good crops without expense, canal-water is still needed and has to be paid for on the Chenáb, and so the colonists are comparatively speaking losers.* For this reason sliding scale would not be fair on the Chenáb.

* True in a sense, but even in good years prices seldom rule cheaper than those taken as commutation prices.

S. S. T.

No. 52, dated Lahore, 29th May 1900.

From—A. H. DIACK, Esquire, Revenue and Financial Secy. to Govt., Punjab and its Dependencies,

To—W. S. HAMILTON, Esquire, Senior Secretary to the Financial Commissioner, Punjab.

WITH reference to your letter No. 673, dated 14th September 1899, I am directed to say that the Hon'ble the Lieutenant-Governor has read with much interest Mr. Thorburn's note, therewith forwarded, on the principles applicable to State canal assessments in the Punjab, and, subject to the following reservations, approves generally of the conclusions arrived at in it.

2. The conclusion in paragraph 8 (*iii*) of the note that half the net assets of the proprietor is not the proper limit to the amount of the *nahri parta* or of the water-advantage rate is, I am to say, contrary to previous practice and rule, and the State, while considering itself unfettered in regard to the charge for water, has hitherto voluntarily adopted this limit in respect of the levy of the remainder of the Government demand on canal-irrigated land. The legal basis for the levy of all canal revenue derived from irrigated land is either the Canal Act or the Land Revenue Act, and when we deliberately levy a rate, such as the *nahri parta* or the water-advantage rate, under the latter Act its levy is subject to all the conditions of land revenue assessment.

3. In connection with the matters dealt with in paragraph 2 (*a*) and paragraph 9 of his note, Mr. Thorburn has, the Lieutenant-Governor thinks, omitted to notice one point. As noticed in paragraph 14 of Appendix A to the note, the Government of India did not accept Sir James Lyall's theory about the old inundation canals. But Sir Mackworth Young does not read their ruling as prescribing that we are to take a full commercial value for water on such canals as were constructed by the people, and he thinks that the case forms an exception to Mr. Thorburn's conclusion in this regard.

4. The proposal in paragraph 16 of the note to have varying scales of water-rates for different zones of fertility along a perennial canal appears to the Lieutenant-Governor to violate Mr. Thorburn's own canon of simplicity. The loss of revenue liable to be caused by too much uniformity would be better prevented by the alternative proposal to have a uniform scale of water-rates for the whole length of the canal and push up the fixed rating where necessary. This was, in regard to the land of private owners, the conclusion arrived at by Mr. Thorburn himself in paragraph 13 of the note. But the time has not yet come, His Honor thinks, for laying down any hard-and-fast rule regarding the matters dealt with in this paragraph.

5. As observed in paragraph 19 of the note, the instructions contained in Section 336 of Mr. Douie's Settlement Manual imply that it is not necessary to exclude the prices of famine years in fixing the scale of commutation prices for a canal-irrigated tract, and this is as far as it is desirable to go in taxing the profits gained in famine years by the owners of irrigated land.

6. With reference to paragraph 2 of your letter, the Lieutenant-Governor does not think there are any general points in Mr. Thorburn's note that could usefully be threshed out by a committee of officers, though the application of the principles to a particular settlement or canal scheme might possibly on occasion be advantageously considered by such a committee. I am to suggest, however, that the note and its appendices might be published together with this correspondence as a Selection from the Records of the Financial Commissioner, as the note is a most useful contribution to the literature on the subject of assessment of canal-irrigated land, and the material so well put together by Mr. Hamilton in Appendices A, B and C should be made available to Revenue and Canal Officers for ready reference.

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